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1990

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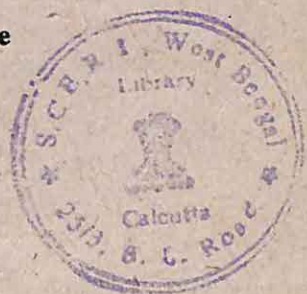
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PREFACE

The 58th annual edition of the 'Hindustan Year-Book & Who's Who' has been thoroughly revised with latest corrections, additions of new items of topical interest, alterations of existing materials and deletion of items which were found unnecessary. This year Seoul Olympic have been dealt in detail.

Even then your Editor will much appreciate it if readers kindly point out the errors and omissions inadvertently crept into this edition. Your Editor takes this opportunity to acknowledge with thanks the receipt of the letters during the last year congratulating him for his work or suggesting him for the betterment of this book. It is regretted that replies could not be sent to all those readers individually due to obvious reasons.

For the success of this venture, the editor is deeply indebted to the unreserved co-operation by the enlightened section of its readers and friends and extends his gratitude to all persons including different ministries of the Government of India and State Governments, who were generous in their co-operation in the revision of this year's edition.

S. SARKAR
Editor

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I, Supriya Sarkar, hereby declare that the particulars given above are true to the best of my knowledge and belief.

CALCUTTA

Dated 28th February, 1990

Sd/- SUPRIYA SARKAR.

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**HINDUSTAN YEAR-BOOK
& WHO'S WHO**

PART I

INDIAN CHRONOLOGY

B.C.

- 3200-2000 — The traditionally accepted date of the Indus Valley Civilization. But according to the recent analysis the civilization flourished between 2350-1750.
- 1200-1000 — Rigveda compiled.
- 1000-500 — Age of the Ramayana, the Mahabharata or the Bhagwat Gita.
- 623-543 — Traditional years of birth and death of the Buddha. But according to modern historians the probable dates are 566 and 486 respectively.
- 540-468 — Traditional years of birth and death of Mahavira.
- 377 — Buddhist Council at Vaisali.
- 326 — Invasion of India by Alexander
- 324 — Maurya Empire founded by Chandragupta.
- 273-232 — Reign of Asoka.
- 190 — Greek Kingdom of N. W. India.
- 187 — End of Maurya dynasty.
- 187-75 — Rule of the Sungas.
- 58 — Beginning of Vikram Era.

AD

- 64-225 — Kushan Dynasty in N. W. India ; South Indian Kingdoms of Cholas.. Cheras and Pandavas.
- 78 — Accession of Kanishka. Beginning of Saka Era.
- 320-475 — Gupta dynasty ; Ajanta Cave frescoes and Ellora Cave carvings.
- 335-376 — Reign of Samudra Gupta.
- 376-414 — Reign of Chandragupta II (Vikramaditya).
- 405-11 — Fa-Hien's travels.
- 454 — First Hun invasion.
- 480-90 — Fall of Gupta Empire.
- 606-647 — Reign of Harshavardhana.
- 630-644 — Hiuen Tsang's travels.
- 712 — Arab conquest of Sind by Mohammed bin Quasim.
- 730 — Accession of Yasovarman of Kanyakubja.
- 735 — First Parsi settlement.
- 750-1202 — Palas & Senas of Bengal.
- 820 — Death of Sankaracharya.
- 960-1200 — Chandellas of Bundelkhand.
- 1000-1026 — Muslim invasion of India by Mahmud of Ghazni.
- 1050 — Atisha Dipankara sent on Buddhist mission to Tibet.
- 1191 — Invasion of Muhammad of Ghur.
- 1192 — Defeat and Death of Prithviraj, the last Rajput King of Delhi.
- 1206-1290 — Establishment of Muslim rule in North India ; Reign of Slave Kings.
- 1221 — First Mongol invasion by Chengiz Khan.
- 1228 — Conquest of Assam by the Ahoms.
- 1230 — Vijaynagar Kingdom founded.
- 1320-1412 — Reign of Tughlak Sultans of Delhi.
- 1334-1342 — Iban Batuta in India.
- 1347 — Bahmani Kingdom of Deccan founded.
- 1398 — Invasion of Timur.
- 1486-1533 — Life of Sri Chaitanya, Saint of Bengal.
- 1451-1526 — Reign of Lodhi Sultans of Delhi.
- 1469 — Birth of Guru Nanak.
- 1494 — Foundation of Agra by Sikandar Lodi.
- 1498 — Vasco da Gama reached Calicut.
- 1510 — Portuguese captured Goa.
- 1526 — First Battle of Panipat and establishment of Mughal Empire by Babar.
- 1539-45 — Reign of Sher Shah.
- 1556-1605 * — Second Battle of Panipat (1556). Reign of Akbar.
- 1597 — Death of Rana Pratap.

- 1600 — East India Co. founded by Royal Charter.
- 1605 — Death of Akbar.
- 1612 — Ist English factory set up at Surat.
- 1627-57 — Reign of Shah Jahan.
- 1627 — Birth of Sivaji.
- 1644 — Farman permitting the English to trade in Bengal.
- 1658-1707 — Reign of Aurangzeb.
- 1668 — Ist French factory set up at Surat.
- 1675 — Execution of Tegh Bahadur, 9th Sikh Guru, by Aurangzeb.
- 1680 — E. I. Company established trading centre at Calcutta.
- 1686-87 — Fall of the Kingdoms of Bijapur and Golconda.
- 1698 — The English obtained Zamindari of three villages of Sutanati, Kalikata and Gobindapur — Nucleus of Calcutta.
- 1707 — Death of Aurangzeb.
- 1734 — Nadir Shah sacked Delhi.
- 1757 — Battle of Plassey (23 June).
- 1761 — Third Battle of Panipat.
- 1764 — Battle of Buxar.
- 1765 — Grant of Dewani of Bengal, Bihar and Orissa to E. I. Co. by Mughal Emperor Shah Alam.
- 1772 — Warren Hastings appointed first Governor-General of British India.
- 1775 — Execution of Nanda Kumar.
- 1781 — First newspaper, Hickey's Calcutta Gazette in India (29 January).
- 1784 — Pitt's India Bill passed by British Parliament.
- 1786-90 — Reforms of Cornwallis.
- 1790 — Third Mysore War.
- 1792 — Ranjit Singh succeeds his father as leader of a Sikh Misl.
- 1793 — Permanent Settlement of Bengal.
- 1799 — Death of Tipu Sultan.
- 1828-35 — Lord Bentinck as Governor-General.
- 1829 — Brahmo Samaj founded by Raja Rammohan Roy ; Prohibition of Sari.
- 1833 — Charter Act of India which abolished Company's trade ; Death of Raja Rammohan Roy.
- 1835 — Introduction of English as the medium of instruction.
- 1839 — Death of Ranjit Singh.
- 1839-42 — Anglo-Afghan War.
- 1853 — Opening of railways (16 April) and telegraphs.
- 1854 — Wood's Despatch on Education ; First postage stamp issued (1 Oct).
- 1856 — Annexation of Oudh by the British ; Introduction of Hindu widow marriage.
- 1857 — Indian Mutiny.
- 1858 — Transfer of India from E. I. Co. to British Crown.
- 1861 — Birth of Rabindranath Tagore.
- 1869 — Birth of Mahatma Gandhi (2 October).
- 1874 — Great Famine of Bengal.
- 1875 — Arya Samaj founded by Dayananda Saraswati.
- 1885 — First session of Indian National Congress in Bombay.
- 1897 — Birth of Subhas Chandra Bose (23rd January).
- 1905 — Partition of Bengal. Anti-Partition Movement begins.
- 1906 — Foundation of the Muslim League.
- 1907 — Congress split between extremists & moderates.
- 1909 — Morley-Minto Reforms.
- 1911 — Partition of Bengal revoked ; First inland air mail flight (18 Feb.).
- 1913 — Nobel Prize for Rabindranath Tagore.
- 1914 — Gandhi returns to India from South Africa ; Beginning of World War I.
- 1918 — Montague-Chelmsford Reforms ; Jalianwalabagh massacre at Amritsar (13 April) ; Third Afghan War.
- 1920-22 — Non-co-operation Movement ; Khilafat Movement.

- 1930 — C. D. Movement started by Congress; 1st session of the Round Table Conference.
- 1931 — Gandhi-Irwin Pact.
- 1932 — Second Civil Disobedience Movement.
- 1935 — Government of India Act passed.
- 1937 — Inauguration of Provincial Autonomy; Congress Ministries in majority of Provinces; Burma separated from India (1 April).
- 1939 — Second World War begins. Resignation of Congress Ministries in 9 provinces.
- 1941 — Subhas Chandra Bose escaped from India to organise the I.N.A. Movement.
- 1942 — Cripps' Mission; 'Quit India' movement.
- 1943 — Bengal Famines.
- 1946 — Cabinet Mission's Plan; Interim Government with J. L. Nehru as Prime Minister and widespread communal riot.
- 1947 — Partition of India; India becomes independent (15 August); Kashmir attacked by Pakistan
- 1948 — Martyrdom of Mahatma Gandhi (30 Jan); India's appeal to U.N. to stop aggression by Pakistan in Kashmir (2 Jan).
- 1949 — India's new Constitution passed into law (26 Nov).
- 1950 — India becomes a Republic (26 Jan).
- 1951 — 1st Five-Year Plan launched.
- 1952 — First General Election.
- 1953 — Mt. Everest conquered for the first time by Tenzing & Hillary.
- 1954 — French Settlement in India merged to India; Doctrine of Panch Shila accepted.
- 1956 — Indian States re-organised on linguistic basis; 2nd Five Year Plan launched.
- 1957 — Second General Election.
- 1958 — Metric system of weights and measures introduced.
- 1960 — Partition of Bombay into Maharashtra and Gujarat.
- 1961 — Goa liberated by India.
- 1962 — China attacked India (Oct.); Third General Election.
- 1963 — Rocket Centre of Thumba launched its first rocket.
- 1964 — Death of Jawaharlal Nehru (27 May); Lal Bahadur Shastri becomes Prime Minister (9 June).
- 1965 — Mt. Everest conquered by Indians (20 May); Indo-Pak undeclared war (5 August-22 September).
- 1966 — Death of Lal Bahadur Shastri at Tashkent (11 Jan). Indira Gandhi becomes Prime Minister of India (24 Jan.); Partition of Punjab into Punjab and Haryana (1 Nov.).
- 1967 — Fourth General Election (15-20 Feb.).
- 1968 — Congress Party split — Mrs. Indira Gandhi expelled from the Congress.
- 1970 — Creation of Meghalaya.
- 1971 — Himachal Pradesh becomes a State (2 April); Mid-term Lok Sabha Election (1-10 March); Indo-Soviet Treaty (9 Aug.); Indo-Pakistan War (3-16 Dec.).
- 1972 — Fifth General Election; New States of Meghalaya (20 Jan.), Tripura (21 Jan.) and Manipur (21 Jan.) formed; Simla Agreement signed with Pakistan (3 July).
- 1974 — Underground nuclear explosion carried out (18 May).
- 1975 — Sikkim becomes a state of India (April); the first Indian satellite Aryabhata went into orbit around the earth on 19th April; State of Emergency declared (26 June).
- 1977 — Dissolution of the Lok Sabha and the nation goes to polls; The Congress Party led by Mrs. Gandhi rejected by the people and the Janata Government under Mr. Morarji Desai assumes offices; The President Mr. F. A. Ahmed had a sudden death.
- 1979 — Prime Minister Mr. Morarji Desai resigns in the face of a no-confidence motion (15 July). Chaudhury Charan Singh became the Prime Minister on July 28 and resigned on August 20. President Sanjeeva Reddy dissolved Lok Sabha (Aug. 22).
- 1980 — Seventh Lok Sabha Poll (Jan. 3 and 6). Mrs. Indira Gandhi sworn in as Prime Minister (Jan. 14).
- 1981 — Rohini Satellite was shot into orbit from Shriharikota (May 31). India's first geostationary telecommunication satellite APPLE was put into orbit from European Space Agency in French Guyana.

- 1982 — Cong. (I) candidate Zail Singh declared elected President. Dal Khalsa and National Council of Khalistan banned under the unlawful Activities Prevention Act, 1967
- 1983 — ONGC strikes oil off Bombay coast.
- 1984 — Squadron Leader Rakesh Sharma became the first Indian spaceman, when he was launched aboard Soyuz T-11 with two Soviet cosmonauts. Mrs. Indira Gandhi was assassinated at her New Delhi residence (31st October) and Mr. Rajiv Gandhi was sworn in as Prime Minister.
- 1985 — India became a member of South Asian Association for Regional Co-operation (SAARC).
- 1986 — The Gorkha National Liberation Front (GNLF) led by Mr. Subhas Ghising initiated a movement for a separate Gorkhaland in the District of Darjeeling.
- 1987 — Juely polling was held in the States of Mizoram, West Bengal, Kerala and Jammu and Kashmir. Anti Sati Law was passed during the incident of Roop Kanwar, a widow from Rajasthan. R Venkataraman was sworn in as the President of India.
- 1989 — Ninth Lok Sabha Poll (Dec.22, 24 and 26). V. P. Singh sworn in as Prime Minister (Dec.2nd)

HISTORY OF INDIA

The History of India begins from the prehistoric time when the oldest men started making stone tools which have been discovered from various parts of this subcontinent. This stage of culture continued for a long time and was followed by chalcolithic age which ushered in the era of the beginnings of the oldest civilisation of India.

The earliest inhabitants of India settled along the banks of great streams. The discovery of two ancient cities, Mohenjo-daro in the Larkana district of Sind and Harappa in the Montgomery district of the Punjab now in Pakistan and excavation at other sites like Kalibangan, Lothal, etc. have revealed that some five thousand years ago a high-level civilizaion flourished in these West and North-Western parts of India.

The main source of information on the Indo-Aryans is the Vedic hymns, the oldest literary remains in the Indo-Aryan language groups. The Aryans were pastoral tribesmen and warriors, tall and fair with straight noses. Their first supposed movement into India, about the middle of the second millenium B.C. was as settlers with their wives and children and their cattle. This infiltration of immigrants, followed by others, resulted in expansion and conflict with the local inhabitants. They were crushed and destroyed. That the first Aryan invaders were both settled and nomadic people can be assumed from the Vedas. The Rig-Veda gives us a clear picture of the life of these Indo-Aryans.

The social and economic order of the Indo-Aryans crystallized into a new society, and information regarding this period of expansion is contained in two great works—the Mahabharata and the Ramayana. The former contains one of the most profound philosophical poems of all times when Krishna addresses Arjuna before the battle. His words form the Bhagwat Gita.

The sixth century B.C. is the beginning of uncertainty in Indian history. The old religion of the Vedas, which was pragmatic and sacrificial, had lost its appeal to the masses. The period of Up anishads (C.800-600 B.C.) is significant for the growth of pessimism. The Sankhya school, founded by Kapila about the time of Upanishads, was basically materialistic. The two great reformers, Vardhamana Mahavira and Gautama Buddha were born into a religious climate saturated with the Sankhya system, and this produced considerable effect upon the doctrines they formulated.

Vardhamana Mahavira, to whom Jainism owes its establishment as a faith, lived from 540 to 468 B.C. Siddharatha Gautama of Sakyamuni, who was known after his enlightenment as the Buddha, lived between 500 and 400 B.C.

In 326 B.C. Alexander the Great entered India and reached Beas, one of the five rivers of the Punjab, but he was prevented from occupying the Gangetic plain as his troops refused to march further because they were afraid of the might of the Nandas of Magadha. Thus, accepting the Beas as the boundary of his new-won empire. Alexander left India in 325 B.C.

A few years after Alexander left India, the Nanda dynasty was overthrown by Chandragupta Maurya, the chief of the Mauryan tribe of Pippalivana. Chandragupta occupied Pataliputra and became very powerful by 305 B.C. About 302 B.C. a Greek ambassador at Pataliputra, Megasthenes, wrote a detailed account of India as he knew. Chandragupta was succeeded by his son Bindusara who was succeeded by Asoke. As a prince, Ashoka was the viceroy of Taxila and

later of Ujjain. In 261 B. C. he invaded the last independent kingdom, Kalinga, on the Bay of Bengal. In this campaign Asoka killed 100,000 people and took 125,000 as captives. The Mauryan Empire under him extended from Himalayas to Mysore, and from the border of Assam to the Hindu Kush.

Immediately after the Kalinga war Ashoka was converted to Buddhism and the influence of Asoka on Buddhism is as significant as that of Buddhism on Asoka. Buddhism itself began to change. Asoka died in 232 B. C. By 185 B. C. the Mauryan Empire, began to disintegrate.

After the fall of the Mauryan Empire, a great political unrest followed for the next six centuries until the Gupta Empire rose to power in the 4th century A. D. The South was divided into a number of warring kingdoms. The North was again invaded by the Greeks and other invaders. Of these, the Kushan kings was Kanishka.

Under the Gupta Empire India enjoyed a period of prosperity and political stabilization. After the decline of the Gupta Empire, no imperial power emerged in North India till the 7th century A. D, when Harsha united the whole of North India. Harsha was a great general, a just administrator and the last great Hindu emperor.

In the 8th Century the tide of Mahomedan conquest began with Kashim's advance into Sind (712 A. D). But the Mahomedans were driven out in 828 and for more than 150 years afterwards the strong feudal and tribal organisations of the northern Hindu Kingdoms were a barrier to the Muslim advance. At length in the year 1001 Mahmud of Ghajni made the Punjab a province of Ghajni.

In 1192, Muhammad of Ghur attacked and conquered the Gangetic valley. Upon his death, one of his slaves and generals, Kutub-ud-din Aibak who was in the charge of Ghur's Indian possessions, set himself up as Sultan at Delhi (1206). He was the first of a long line of so-called Turko-Afghan Sultan. Alauddin Khilji of this dynasty gave northern India a measure of political stability.

In 1398, Timur or Tamerlane led a great Mughal invasion in India, and after sacking Delhi retired into Central Asia.

In 1526, Sultan Babar a descendant of Tamerlane, founded the Mughal Empire in India. His son Humayun was overthrown by an Afghan landlord of Bihar, Sher Shah. But after the death of Sher Shah, Humayun recaptured some of his own possessions in India. Babar's grandson Akbar reigned from 1556 to 1605 and extended his power over most of the peninsula, being distinguished by his justice and his tolerance in matters of religion.

His son Jehangir received an ambassador, Sir Thomas Roe, from James I, King of England in 1615. His son Shahjehan, who build the Taj Mahal, was famous for his patronage of art and culture. He was deposed in 1658 by his third son Aurangzeb, who made war successfully with Afghans, the Rajput tribes and the rising power of Maharattas led by Sivaji. The Sikhs formed a religious and military commonwealth in the Punjab in 1675. On the death of Aurangzeb in 1707 the Mughal Empire began to decline. Mohammedan viceroys like the Nizam of Hyderabad and the ruler of Oudh declared their independence. Hindu States of the Rajputs and the Maharattas and the Sikhs began to harass the crumbling Empire. In 1734, Nadir Shah of Persia swept down on India, sacked Delhi and carried away of huge amount of treasures. The two immediate successors of Aurangzeb, Bahadur Shah and Zahandar Shah, were incapable rulers. During the reign of Mohammed Shah, the Maharattas who had already subdued the Deccan, wrung first Malwar in 1743 and then Orissa in 1751 from the feeble fold of the Mughal Emperor. The same year saw the first inroad of the Afghan Prince Ahmed Shah, followed in quick succession by three other invasions, to repeal which the assistance of the Maharattas was obtained. In 1761 the decisive battle of Panipat was fought between the Afghan and Maharattas, and it ended in the defeat of the latter.

In the beginning of the 16th century the Portuguese, following in the wake of Vasco da Gama, had established factories and fortresses on coast of Malabar, and soon extended their power over nearly all the ports and islands on the coasts of Persia and India. In 1595, the Dutch gained a footing in India. The English traders in the name of East India Company had formed commercial settlements in India as early as 1613. Surat was their chief station. A grant of small territory around Madras was received from the Rajah of Vijaynagar in 1639 on which was erected the fort St. George. Madras became a presidency in 1654. Calcutta, ultimately the seat of the British Government in India, was founded in 1690 and became a presidency in 1707. The English early came into collision with the Portuguese and Dutch, but it was the struggle with the French in India for influence over the native princes that led step by step to the establishment of the British Empire in India. The first conflict with the French took place in 1746, when the English

Madras, which however, was restored by treaty of Aix-la-Chapelle. In 1751 Dupleix, the French Governor of Pondichery, was powerful enough to place his own men on the throne of the Deccan and the Carnatic. The English supported the rival candidates, and the result was a second war, which left the English influence predominant in the Carnatic, though the French still controlled the Deccan.

The most memorable incident in this war was Clive's capture of Arcot.

About this time, in 1756 the Nawab of Bengal, Siraj-ud-daula, attacked the English settlement of Calcutta with the large army and forced it to capitulate. Clive was at once sent with an armed force from Madras. He recovered Calcutta, attacked and took French settlement at Chandannagore, routed the Nawab's army at the battle of Plassey on 23rd June 1757, and placed Mir Jaffar in the viceregal throne, with the consent of the dwindling Mughal Court. In the south the English also were equally victorious. A force despatched by Clive took Masslipattam, and the victory gained by Coote at Wandewash on 22nd January, 1760 completed the destruction of the French power in India.

In Bengal Mir Jaffar soon found himself unable to meet claims of the English and in 1760 he was deposed in favour of Mir Kasim, who agreed to pay the balance due by Mir Jaffar as well as grant the districts of Burdwan, Midnapur and Chittagong to the English. But disputes soon led to a war in which Mir Kasim was ousted and forced to flee. The British retained the collectorship or fiscal administration of Bengal, Bihar and Orissa, under the grant of Mughal Emperor. A nominal local ruler, however, was appointed in the shape of a Nawab, who received a fat allowance of £600,000 from the British and actual collection of the revenues was left to local officials.

This system of dual government established by Clive was abolished in 1772 by Warren Hastings, who appointed British officers to collect the revenues and preside in the courts and then laid the foundation of the British administration in India. In 1774 Hastings was made Governor-General of India. Amongst the notable measures of his period was the refusal to pay tribute to the Mughal Emperor, sale of the provinces of Allahabad and Kora to the Nawab of Oudh and the loan of British troops to the same Nawab for the subjection of the Rohilla Afghans. For these and other acts Hastings was impeached on his return to England. In 1778, the intrigues of the Bombay Government led to the first war with the Mahrattas, in which the British Army were only saved from disgrace by the achievements of the Bengal Army sent by Hastings; and in the war with the Sultan of Mysore, the diplomatic skill of Hastings and the valour of the Bengal troops under Sir Eyre Coote again won victory for the British. In 1786 Lord Cornwallis succeeded Hastings as Governor-General. His rule is memorable chiefly for the war with Tipu Sultan of Mysore, which terminated in the Sultan having to surrender one half of his dominations to the British and their allies. Marquis Wellesley arrived in 1798 as the Governor-General and his policy eventually made the British power permanent in India from the Himalayas to Cape Comorin. Under him Tipu was completely overthrown by 1799 and Second Mahratta War concluded.

During Lord Bentinck's administration (1828-35) administrative reforms were the subject for consideration. During the period of Governor-Generalship of Marquis Dalhousie (1848-56) a new war broke out with Sikhs and after their final defeat the Punjab was finally annexed to the British Empire. This was followed by second Burmese war ending in the annexation of Pegu. The Indian States of Satara, Nagpur and Jhansi were also annexed to the British possessions between 1852 and 1856.

The administration of Lord Canning (1856-61) was distinguished for a short war with Persia and great Sepoy Mutiny. In 1857 Sepoy regiments all along the Gangetic plain mutinied against their officers and the British rule, the Moslems tried to restore the old dominion of the Mughals.

At Cawnpur all the British soldiers were slain. At Lucknow the garrison held out and endured a long siege till they were relieved first by Havelock and Outram, and then by the fresh troops from England led by Sir Colin Campbell. Because there was a great rebellion of mutineers at Delhi the British forces besieged the city and took it after some time. The Britishers now felt that it was time to end the government of India by a company of merchants, and the direct sovereignty of India was vested in the British Crown in 1858. On 1st January, 1877, during the viceroyalty of Lord Lytton, Queen Victoria was proclaimed Empress of India at Delhi. Lord Hardinge became viceroy in 1910 and in 1911 King George V visited India, when Delhi, instead of Calcutta, became the capital of India.

When the 1st World War began India entered the struggle with enthusiasm. The Indian leaders naturally felt that their country's heroic part in the War should entitle her to inde-

pendence, and in 1916 Indian National Congress, founded in 1885, passed a resolution claiming Home Rule for India. The Muslim League adopted the same resolution.

Gandhi in 1921 inspired the Congress to adopt the famous resolution of non-co-operation. The resolution envisaged boycott of British legislature, law courts, schools. The Congress adopted the creed to obtain Swaraj or self-rule by non-violent means. The Non co-operation Movement resulted in boycott of legislatures set up under Montague-Chelmsford Reforms. Meanwhile the destruction of the Turkish Empire and deposition of Caliph, created grounds for an agitation by the devout Muslims. A Khilafat movement combined with Congress in its Non Co-operation movement, but violence broke out at Chaurichoura in U. P. and so the mass demonstration was called off. Deshbandhu Chittaranjan Das and Pt. Motilal Nehru formed a Swarajya Party to wreck the reforms from within the legislatures. In 1923 communal tension broke out in several places and the Muslim League was revived next year. The boycott of the Simon Commission gave an opportunity for alliance but its refusal to accept claims put forward for the Muslims by Mohammed Ali Jinnah at the All-Party Conference held in 1928 led to the holding of an All-Party Muslim Conference and the formulation of claim which became, famous as Jinnah's 'fourteen points'. Both the All-Party Conference and the Congress agreed to accept dominion status by 31st December, 1929 despite the declaration in 1929 at Lahore that the Congress desired to achieve complete independence. On 31st December, 1929, Pandit Jawaharlal Nehru, President of the Lahore Session of the Congress, declared the aim as complete independence. It was decided to celebrate this declaration of independence on the 26th January of 1930 and since then it was celebrated each year and since 1951, 26th January is being observed as Republic Day of India.

A mass Civil Disobedience movement was started by Gandhiji on 6th April 1930 with his famous march to Dandi. The then Government withdrew all repressive measures and released all political prisoners. Congress in response abandoned the movement and agreed to join the Round Table Conference after which the Gandhi-Irwin Pact was signed on 4th March, 1931. Gandhiji represented and could not agree on the communal question, as a result of which Communal Award was announced providing separate electorates for the depressed classes. Civil Disobedience movement continued up to May 1934, when the Congress decided to work within the frame work of the Govt. of India Act of 1935. After the elections of 1937 Congress Ministries were established in 9 out of 11 provinces. A left-wing force however emerged by this time and Subhash Chandra Bose defeated Gandhiji's nominee Pattavi Sitaramayya for the Presidency of Congress held in Tripuri. Subhash Chandra Bose was forced to resign by the Congress High command and he formed a new party, the Forward Block, which gained immense popularity.

By 1939 Second World War started and the Congress refused its co-operation in a war which was conducted on imperial lines. The Communist Party of India, however, offered their co-operation accepting the war as a People's War.

Sir Stafford Cripps was sent to India whose plan was nothing but a repetition of an earlier offer, and this was not, therefore, accepted. In 1940 Jinnah placed his demand for a separate Muslim State of Pakistan, which gave the Government a handle to refuse all Congress proposals for setting up an Indian National Government.

In August 1942 the Congress adopted the famous Quit India resolution and soon as it was passed, the Government declared that Congress was illegal and arrested all its leaders.

Subhas Chandra Bose was not in India at that time. He escaped from India in January 1941 and made contacts with Germany and Japan. When the Japanese reached the frontier of India, a large number of Indian soldiers fell prisoners into their hands. An Indian National Army was organised by Rash Behari Bose with Subhas Chandra as its Netaji—Supreme Leader. He inaugurated the Government of Free India at Singapore and in 1943 his army advanced with Japanese soldiers up to Kohima and actually touched a part of India. The Indian National Army surrendered to the British after the collapse of Japan, and number of its officers were tried for treason. On 18th February, 1946, the ratings of the Royal Indian Navy rose in an open mutiny which took a very serious turn within a short time.

On 19th February, 1946, the then British Prime Minister, Clement Attlee announced a Mission to India of some members of his cabinet, which arrived in India in March, 1946. A series of discussion with Congress and Muslim League leaders could not bring an agreement and on 16th May, 1946 the Cabinet Mission announced its own recommendations. These proposals were accepted by Muslim League but were rejected by the Congress. The Cabinet Mission left India on 29th June. Muslim League demanded that the Viceroy constitute the provisional Government even without Congress, but that was not possible. The League then withdrew their acceptance

of the Mission's proposals : the viceroy reconstituted the Council of Ministers. The Muslim League declared 16th August, 1946, as direct Action day. On that day a large number of Hindus and Muslims in Calcutta were butchered and their property looted and destroyed, and Calcutta became the scene of one of the most brutal communal killings.

On 20th February, 1947, the British Government declared its intentions to quit India by June, 1948, and appointed Lord Mountbatten an Viceroy.

On 3rd June, the British Government's new policy was broadcast by the Viceroy, which envisaged division of the country and transfer of power by 14th August, 1947. This scheme was accepted by both the Congress and the Muslim League and the Indian Independence Act was passed through the British Parliament on 1st July, 1947. On 15th August, 1947 the Constituent Assembly in Delhi declared India a Dominion within the British Commonwealth, with Lord Mountbatten as its first Governor - General. Md. Ali Jinnah was chosen as the first Governor-General of Pakistan in Karachi: The British Indian Empire was finally liquidated from 15th August, 1947.

The Princely States were connected with the Government of India only through their feudal dependence upon the British Crown. On the advice of Lord Mountbatten most of the States agreed on 25th July, 1947 to accede to the Indian Union or in the case of States in Pakistan territory, to Pakistan. Muslim League, of course, encouraged the princely States to declare their right to independence. The Nizam of Hyderabad, a State with predominantly Hindu population opposed to the accession to India. Indian troops marched into Hyderabad in September 1948 and the State acceded to the Indian Union. In the State of Jammu and Kashmir a critical situation developed. The Hindu Maharaja whose major subjects were Muslims, could not make up his mind. On 22nd October, 1947, Pathan tribesmen well-armed with rifles, machineguns, mortars and artillery, crossed the western border of Kashmir with the moral and material support of Pakistan. The Maharaja appealed to India for help and offered to accede to the Indian Union and Indian troops were flown in. On 31st December, India placed the question of Kashmir before the Security Council of the U.N. and a cease-fire agreement was signed by the Government of India and Pakistan in January 1949.

From 1950 until his death on 27th May, 1964 it was the personality of Jawaharlal Nehru which gave India solidarity and strength. After the new Constitution was framed and came into force in 1950, India became a Republic, through retaining her links with the British Commonwealth.

In October 1962, the Chinese attacked India's Northern frontier and after a short campaign ceased fire unilaterally. The Chinese are now in possession of 36,260 sq. km. of Indian territory in Ladakh and 5,180 sq. km. in the NEFA (now Arunachal Pradesh) areas.

The dispute with Pakistan entered a new phase when it was discovered that quite a large number of Pakistanis invaded Kashmir in disguise on 5th August, 1965. The Indian security force started mopping-up operations. On 27th August, regular Pakistani troops crossed the cease-fire line. On 1st September, they launched a severe attack with two regiments of Patton tanks and Sabre jet-fighters in the Chenub sector and entered a few miles within Jammu. The question was taken up by the Security Council of U.N. which passed a resolution asking both the parties to cease hostilities which resulted in a cease-fire on 23rd September. Mr. Alexi Kosygin, Prime Minister of USSR arranged a meeting between the Prime Minister of India, Lalbahadur Shastri and the President of Pakistan, Md. Ayub Khan early in January 1966 at Tashkent. Shastri died of heart attack on 11th January immediately after signing an agreement. He was succeeded as Prime Minister by Pandit Nehru's only daughter Mrs. Indira Gandhi on 24th January, 1966.

Mrs. Gandhi took bold steps in nationalising banks, abolishing privy purse and the special privileges enjoyed by the ex-rulers.

On August 9, 1971 India and the Soviet Union signed a 20-years treaty of peace and friendship.

Pakistan launched a war on India on Dec. 3, 1971. She attacked several airfields in the western sector. On the same day Indian troops started crossing the border of Bangladesh (then East Pakistan) in concert with the liberation force (Mukti Bahini) there. On Dec. 6 India recognised Bangladesh. On Dec. 16 Pakistan's Eastern Army Commander unconditionally surrendered at Dacca. On the same day India announced a unilateral cease-fire on the Western Front. On July 3, 1972 an agreement was signed by Prime Minister Mrs. Indira Gandhi and President Z.A. Bhutto at the end of summit talks held at Simla. Under the terms of the agreement it was agreed, besides the other clause, that all India-Pakistan disputes would be settled by peaceful means through bilateral negotiations.

India carried out an underground nuclear explosion in the Rajasthan desert on May 18, 1974.

Sikkim became a full-fledged State of India in April 1975.

A new chapter was opened in the history of India when J.P. Narayan launched his famous drive against "corrupt" congress Ministries in 1974, under the banner of the "total revolution". The Prime Minister Mrs. Gandhi retaliated by proclamation of a state of emergency in June 1975. Press was censored. Opposition leaders, including veterans like J.P. Narayan and Morarji Desai were put behind the bars. The 42nd amendment to the Indian Constitution severely curtailed the power of the judiciary. The Congress adopted a 25 pt. economic programme for implementation. But in an unscheduled broadcast to the nation on the night of Jan. 18, 1977 the Prime Minister announced the dissolution of the Lok Sabha and relaxation of the stringent emergency regulations. The people were asked to go to the polls from March 16, 1977. Meanwhile, India lost her president F.A. Ahmed when he died of a sudden heart-attack. Hectic political activity was, however, recorded when Jagjivan Ram quitted the Congress Party and formed the Congress For Democracy. In the ensuing election, in which the Opposition presented a United Front, the electorate gave a decisive mandate against the Congress and voted the Janata Party (a combination of the previous Cong. (O) B.L.D., Jana Sangha, S.S.P., etc.) to office. Mr. Morarji Desai was sworn-in as India's first non-Congress Prime Minister on 24th March, 1977. The C.F.D. joined the Ministry and later merged into the Janata Party. On the other hand Mr. Y. B. Chavan was elected leader of the Opposition. The new Prime Minister promised a regime responsive to the popular aspiration. The Janata government already restored people's rights and liberties, provided a rural orientation to the schemes of economic development and promised employment opportunities for all within ten years. Yet another significant landmark in the history of Indian Parliamentary democracy was achieved when the Union Govt. ordered fresh poll for the legislatures of the States where the Congress was routed in the Parliamentary elections. The Janata Party secured absolute majority in seven out of the nine State legislatures which had been dissolved. In the remaining two States—West Bengal and Tamil Nadu, the C.P.I.(M) led Left Front and the A.I.A.D.M.K. respectively swept polls. In Jammu and Kashmir Sheikh Abdullah's National Conference was again voted to power. Summing up the events since the announcement of Parliamentary elections, J. P. Narayan noted that India achieved "a peaceful revolution".

In 1978 Mrs. Gandhi came out of the Congress with her followers to form the Congress (Indira).

On 15th July, 1979 Prime Minister Mr. Morarji Desai resigned in the face of a no-confidence motion.

The President Mr. Neelam Sanjiva Reddy invited Mr. Charan Singh to form the ministry on 26th July. The latter was sworn in as Prime Minister on 28th July. On 20th August Mr. Singh resigned a few minutes before the Lok Sabha took up the motion of vote of Confidence asked for by Mr. Singh himself. On 22nd August the President dissolved the Lok Sabha ordered for a mid-term poll.

Seventh Lok Sabha poll was held on 3rd and 6th January 1980. Mrs. Indira Gandhi led her party Cong. (I) to gain two-thirds majority in the Lok Sabha and was sworn in as Prime Minister on 14 Jan. 1980.

The Congress (I) won three-fourths majority in the Eighth Lok Sabha elections held on December 24, 27, 28, 1984. Previously the Congress secured the largest majority in 1957 by winning 371 out of 494 seats of the Second Lok Sabha.

The Gorkha National Liberation Front (GNLF), led by Mr. Subhas Ghisingh, initiated a movement for a separate Gorkhaland in the district of Darjeeling. The movement claimed that Gorkhaland would be a State within India. Yet another movement in 21 district of Bihar, West Bengal, Orissa and Madhya Pradesh gained strength for the formation of a new State of Jharkhand.

Mr. R. Venkataraman was sworn in as the President of India on 25th July, 1987.

INDIA : THE COUNTRY

PHYSIOGRAPHY—India, also known as Bharat, located in a southern peninsula of the Asian continent. Lying entirely in the northern hemisphere, India covers an area of 3,280,483 sq. km. It measures about 3,219 km. from north to south and about 2,977 km. from east to west. It

is the seventh largest and the second most populous country in the world. With a land frontier of 15,200 km. and a coastline of 5,700 km., India may well be called a subcontinent.

India lies to the north of the equator, between $8^{\circ} 4'$ to $37^{\circ} 6'$ north latitude and $68^{\circ} 7'$ to $97^{\circ} 25'$ east longitude. In the north, India is separated from China by the Himalayas. Situated between the two countries is Nepal and to its east, Bhutan. Mountains also separate India and Burma on the eastern border. Bangladesh is wedged in between the Indian States of Assam and West Bengal. In the north-west lies Pakistan. In the south, the country stretches crossing the Tropic of Cancer and forming into a peninsula with Arabian Sea to the West and Bay of Bengal to the east. On the southern tip of the country lies Sri Lanka.

MOUNTAINS—India has several principal mountain ranges: the Himalayas, the Patkai and other ranges in the north-east, the Vindhya, the Satpura, the Aravalli and the Eastern Ghats.

While the Himalayas are the highest mountain of the world the Aravalli is the oldest. The present Aravalli has lost its range character in many parts and is now a relic of its past.

The weathered products of the ancient Aravalli range were ultimately deposited in the Vindhyan sea to form the Vindhya range and plateau. It traverses nearly the whole width of peninsular India, a distance of about 1,050 km.

The Satpura mountain system rises south of the Vindhya and is more or less parallel to it. It extends from Ratanpur on the west to Amarkantak on the east, a distance of 900 km. The total mountain area is 75,000 sq. km. Above all, there are the Western (Arabian Sea) coast and the Eastern Ghats extending along the eastern (Bay of Bengal) coast.

PLATEAUS—Most of the surface of the India has developed a plateau character. Malwa and Vindhya plateaus of Central India about against the Vindhya range on the south and slope northwards. The Sone river separates the Vindhya plateau from its southern neighbour, the Baghelkand plateau the latter is bordered on the north by the Sonpur hills. Farther east lie the Ranchi, Hazaribagh and Kodarma plateaus. These are collectively known as the Chota Nagpur plateau.

The Satpura contains a number of high plateaus south of the Narmada river. Of these the names of the Betul plateau and the Maikala plateau deserve special mention.

South of the Tapti-Purna and west of the Wainganga-Pranhita-Godavari stands the largest plateau of India, the Deccan. It covers 700,000 sq. km. It may be subdivided into three broad sections—Maharashtra, Karnataka and Telengana.

PLAINS—The plains of India cover more than a million sq. km. and are extensively cultivated and densely populated wherever water is available. Most of the rivers in the Himalayas have built up plains in high altitudes and subsequently dissented them into terraces. The Indus in Kashmir, the Sutlej in the Punjab Himalayas, and the Ganga in the Kumaun Himalayas enter into such terraced plains at a number of places. Small alluvial cones have also been built up tributary streams in the Himalayan region. The lacustrine and glacial plains in the Himalayas and other mountains are the other types of mountain plains. The plains at the foot of the Himalayas are examples of piedmont plains. On west of the Aravalli, there are rocky arid plains. Lava plains occur on the Konkan coast. Padi plains, resulting from the recession of hills, are widespread in South India. Coastal plains of emergent type with lagoons and backwaters are seen on both the coasts.

PHYSIOGRAPHIC DIVISIONS—Although in India the three major landforms—mountains, plateaus and plains—occupy distinct tracts of the country, yet within a large frame, there are many deviations from the norm. Accordingly to the scientific study of physiographical division of India, India has seven major Physiographic Divisions as follows:

NORTHERN MOUNTAINS—The topography of the Himalayas has no parallel in the world. The north-eastern mountains have Appalachian features. The Kali river limits the Western Himalayas in the east whereas the high transverse range, Singalila, marks the western limit of the Eastern Himalayas. The Western Himalaya is subdivided into four regions—the North Kashmir Himalaya, South Kashmir Himalaya, Punjab Himalaya and Kumaun Himalaya, from west to east. The western part of the Eastern Himalayas includes the Sikkim Himalaya, Darjeeling Himalaya and Bhutan Himalaya. The remaining portion of the Eastern Himalayas is embraced by the Assam Himalaya.

GREAT PLAINS—The Great Plains of India are stretched in front of the largest aggradation-al plains. They are stretched in front of the Himalayas, fanning out at both ends, so as to include the Ganga delta on the east and Rajasthan arid and semi-arid plains on the west. The central and eastern part of the Great Plains have been built up by the Ganga and its tributaries. The Punjab Plains

occupy the western part of the Great Plains where the tributaries of the Indus flow in a south-western direction in contrast to the south-east flowing Ganga and its tributaries. Arid conditions have set in over the southern part of the Punjab and continue more forcefully in West Rajasthan, which though originally a part of the Indo-Ganga Plains, is passing today through a different landscape cycle; this section forms the Western Arid Plain. The Great Plains are an alluvium filled through, the depth of which varies from place to place. The total area of the Great Plains is 652,000 sq. km. of which one-third lies in the Western Rajasthan. Another one-third lies in Uttar Pradesh; and three other States, Punjab, Bihar and West Bengal, have more or less equal shares.

CENTRAL HIGHLANDS—The Central Highlands with their two border ranges and many scraps exemplify the influence of rocks on topography. A wide belt of hilly country bordered on the west by the oldest tectonic mountain of India and on the east by a great escarpment, constitutes the Central Highlands, which separate the Great Plains of North India from the plateaus and coastal plains of the Deccan. About one-half of Madhya Pradesh, one-third of Rajasthan and a small portion of Uttar Pradesh lie in this physiographic division. It forms a compact block of mountains, hills and plateaus, interspersed with valleys and basins covering about one-sixth of India's total area. Most of it is forested and is the homeland of aboriginal tribes.

PLATEAUS—The Peninsular Plateaus form one of the world's largest stable landmasses. They constitute the largest physiographic division, facing the Bay of Bengal in the east and the Arabian Sea in the west. Its maximum length from Panchmarhi on the north to Cape Comorin on the south is 1,600 km. and the maximum width from the Sahyadri on the west, to the Rajmahal hills on the east is 1,400 km. It is triangular in shape with its apex near Broach and its base extending from the southernmost point of India to Rajmahal in Bihar along the Eastern Ghats. The two other sides of the triangle run along the Sahyadri and the Satpura range. The Peninsular Plateaus consist of five sub-divisions: Western hills, North Deccan Plateau, South Deccan Plateau, Eastern Plateau and Eastern hills.

EAST COAST—Extends from Cape Comorin northward to the united deltas of the Krishna and Godavari for 1,100 km. with an average width of 100 to 130 km. Farther north, the hills come down almost to the coast. The coastal plains again widen to the north of Berhampur and extend to the Chilka Lake, the delta of the Mahanadi, and the Balasore coastal plain, where they merge into the Ganga deltaic plains. There are a number of lagoons and back-waters, some of which are linked up by the Buckingham canal. The seaward fringe of the coast is in general swampy and sandy, and that makes it uninhabitable.

WEST COAST—The plains on the West Coast are confined to a narrow belt behind which rise the Sahyadri extending for 1,500 km. from Cape Comorin in the south to Surat in the north, the width ranging from 10 to 25 km. At the northern end are two peninsulas, which have been sub-divided into three areas—the Konkan coast, Karnataka coast and Kerala coast.

BORDERING SEAS AND ISLANDS—India has a number of islands within her territory both in the Bay of Bengal and the Arabian Sea, which encircle the coasts of India. Those in the bay are much larger and more habitable.

The main island groups in the Bay of Bengal are the Andaman and Nicobar Islands and in the Arabian Sea, Lakshadweep Islands. There are two other islands outside these groups. One is the Barren Islands about 140 km. north-east of Port Blair and the other is the Narcondam Islands about 150 km. north east of the Barren Islands. These two islands are the only volcanoes within Indian territories.

CLIMATE—India has a great diversity of climates with many striking contrasts of meteorological conditions characteristic of the Tropics as well as the temperate zone. Broadly speaking, the climate of India is controlled by two seasonal winds or monsoons. Of these, the south-west or summer monsoon blows over thousand of miles of warm oceans before it strikes India at about the beginning of June, to bring 90 per cent of all the rains that fall. Rajasthan and several parts of the country get only a few inches a year. Bombay gets more than 60 inches and Cherrapunji in Meghalaya 470 inches.

By the end of September, the south-west monsoon begins to retreat and by the beginning of January, the north-east monsoon from the land blows steadily over India, the Bay of Bengal and the Arabian Sea. During the four months of the year there is scarcely a place in India outside the Himalayas which receives a single inch of rain.

The climatic regions of India, i.e., according to rainfall, are as follows :-

(1) regions with more than 80 inches of annual rainfall, such as the West Coast, West Bengal and Assam, (2) regions with 40 to 80 inches of rainfall, such as the north-east plateau and the middle Ganga valley, (3) regions with 20 to 40 inches of rainfall, such as Tamil Nadu, southern and north-western Deccan and the upper Ganga plain. To these may be added the Himalayan region with heavy rainfall.

The Meteorological Department of India recognises four seasons -- (1) Cold weather season (December to February); (2) Hot weather season (March to May); (3) Rainy season (June to September); (4) season of the retreating south-west monsoon (October to November).

SOIL OF INDIA — The Indian soil may be mainly classified under four different heads-- (1) ALLUVIAL SOIL, (2) BLACK SOIL, (3) RED SOIL, AND (4) LATERITE SOIL.

ALLUVIAL SOIL is formed by the silts brought by the rivers every year and deposited on their banks. It is very fertile and covers greatest part of the Northern India between the foot of the Himalayas and the northern slopes of the Vindhya and extends in a narrow fringe round the coastline of the peninsula. Territorially, they occupy Punjab, Uttar Pradesh, Bihar, West Bengal, parts of Assam and Orissa and also the coastal regions of southern India. The whole of the Indo-Gangetic plain is comprised in this area.

BLACK SOIL or black cotton soil is best suited to deep-rooted crops, notably Indian strains of cotton. The black soil covers the greater part of Maharashtra and Gujarat, western part of Madhya Pradesh and Hyderabad and some parts of Tamil Nadu. Black cotton soil is exceedingly compact and tenacious and sticky when wet. The water-holder capacity of this soil is good.

RED SOIL covers the whole of Tamil Nadu, Karnataka and south-east Maharashtra, Hyderabad and Madhya Pradesh to Orissa and Chota Nagpur. Northward the red soil extends into the greater part of the Santhal Paraganas and the Birbhum district of West Bengal, Mirzapur, Jhansi and Hamirpur districts of Uttar Pradesh, Baghelkhand States of Central India, the Aravalli and the eastern half of Rajasthan.

LATERITE SOIL is derived by the atmospheric withering of several types of rocks under monsoon conditions of alternating dry and wet periods. This soil is found on the summit of the hills of the Deccan, Madhya Pradesh and of the Rajmahal hills and Eastern Ghats and in certain parts of Orissa, Maharashtra, Malabar, West Bengal and Assam.

RIVER SYSTEM—The total available volume of flow from India's river is assessed at 1,683,000 million cubic metre per year. There are in India three principal watersheds. The Great Himalaya along with its Karakoram branch forms a watershed in the north, the Vindhya range in Central India, strengthened by the Satpura-Maikala forms the second principal watershed; the Sahyadri is the third watershed which directs the course of most of the Deccan rivers.

Rivers in India are of four major types: Himalayan rivers, rivers of Central India and the Deccan, coastal rivers, and rivers flowing into interior drainage basins. The Himalayan rivers are generally snowfed and continue to flow throughout the year. The rivers of Central India and the Deccan are generally rain-fed and their volume of water fluctuates throughout the year. Coastal streams specially in the west have limited catchment-areas. Most of the streams of the interior drainage basins are of an ephemeral character. They drain towards the individual playa basins or salt lakes like the Sambhar, or are completely lost in the sands and have no outlet to the sea. The Indus, the Ganga and the Brahmaputra are the main rivers of the Himalayan system. Perennially fed by melting snow of the Himalayas they have continuous flow throughout the year. Most of the tributaries rise in the Himalayas and are, for a considerable length of their courses, mountain torrents.

(1) The three great Himalayan rivers are:—(a) **INDUS** river with its five tributaries -- **JHELUM, CHENAB, RABI, BEAS AND SUTLEJ**--waters Punjab and Haryana. The source of the Indus is on the northern slope of Mount Kailas in Tibet. For the first 500 miles of its course it flows through deep gorges in the Himalayas; after which it turns south-west and descends on the plains. Thereafter the river flows south to Sind and falls into the Arabian Sea. India possesses very little of the Indus basin. (b) **GANGA**--The main head water of the Ganga is the **BHAGIRATHI**. Its source at Gaumukh, an ice-cave, is taken to be the source of the Ganga as well. Sweeping westwards off 35 km. from its source, the Bhagirathi turns south, cuts through the Great Himalayas in a deep valley, and flowing for another 140 km. through the Lesser Himalayas receives another principal affluent the **ALAKANANDA**, at Devaprayag. The Alakananda rises from a glacial snouth of the Alakapuri glacier, just behind Badrinath

town, and rushes as a mountain torrent until its course is blocked by ice-avalanche. The river continues to flow beneath the ice. After its exit from the ice barrier, the Alakananda runs through a valley carved out of tectonic ridges. At Rudraprayag it meets the south-flowing Mandakini which has its source in Gaurikund and is led by the melted water of the ghorabari glacier descending from the Kedarnath peak. The combined rivers then take the name of Ganga. Flowing south for 70 km. and cutting through two ranges, the Nag Tibba and the Siwalik, the Ganga descends on the plains at Hardwar. Instead of flowing directly south, the river turns east in a great arc and flows across Uttar Pradesh, and Bihar. During its easterly course, it collects the waters of Jamuna, Gomati, Ganga, Sarda, Gandak, Sone and Kosi. Near the Rajmahal hills in Bihar it swings south-east into West Bengal. Thereafter, it splits into several branches and meets the Bay of Bengal. (c) BRAHMAPUTRA rises from the snout of the Chemayngdung glacier near the Tachhog Khabad Chhorted, about 100 km. south-east of the Manassarovar. Running due east for nearly 800 miles in Tibet under the name Tasngpo, it cuts the south into Indian territory. Joined by the Dibang and the Lohit, the united streams takes the name of Brahmaputra. It rolls due west through the narrow Assam valley which is 500 miles long and 50 miles wide. Turning towards south-west at Goalundo in Bangladesh it forges ahead to join the easternmost mouth of the Ganga--the PADMA. Before the combined waters fall into the Bay of Bengal, they are joined by several other rivers, the most important amongst them being the Meghna in Bangladesh.

(2) RIVERS OF THE DECCAN SYSTEM - These rivers rise among the hills of the Deccan plateau and are fed only by the monsoon rains, so that in the dry season some of them become almost waterless. The Deccan system falls under the three categories--east flowing rivers, west-flowing rivers and those which flow north and empty themselves into Gangetic river system. (a) The three important east-flowing rivers are the GODAVARI, KRISHNA AND CAUVERY, which rise in the Western Ghats. They follow the slope of the plateau, cut deep into it and fall into the Bay of Bengal. The MAHANADI and the DAMODAR are two other important east-flowing rivers. (b) The west-flowing rivers are the SHARAVATI, NETRAVATI, CHELIYAR PENNANI AND PERIYAR, all of which rise in the western Ghat and fall into the Arabian Sea. (c) The north-flowing rivers gradually slope towards the north Indian plain, the most important of which is the CHAMBAL which feeds the JAMUNA and the SONE which joins the Ganga near the Patna. But the two biggest rivers are the Narmada and the Tapti, which flow westward and fall into the Arabian Sea.

The drainage basins of India vary in size to a great extent. The Ganga basin, the largest, receives waters from an area of about 838,200 sq. km. -- about a quarter of India's total area. The second largest is the basin of the Godavari. It covers an area of about 523,800 sq. km. (about 10% of India's total area). The basins of the Brahmaputra in the east and that of the Indus within Indian territory are nearly equal in area--285,000 sq. km. and 285,300 sq. km., respectively. The Krishna basin is the second largest in Peninsular India, with an area of about 271,300 sq. km. The Mahanadi in Orissa flows through the third largest basin in the peninsula --192,200 sq. km. the basins of the Narmada (994,500 sq. km.) in the north and the Cauvery (94,400 sq. km.) in the south are nearly equal in area.

RACES -- India's 547,949,809 people constitute 1/7th of the human race. Her population, second only to that of China, is made up of many racial strains. Indian races were divided into seven broad groups by Sir Herbert Risely, such as MONGOLOID, INDO-ARYAN, DRAVIDIAN, MONGOLO-DRAVIDIAN, ARYO-DRAVIDIAN, SCYTHO-DRAVIDIAN AND TURKO -- IRANIAN.

Next classification was made by Dr B.S. Guha and Dr. J.H. Hutton based on race-cum-languages and cultural sequences. According to this theory all people came to India from outside such as -

(1) NEGRITOES FROM AFRICA--the oldest people to have come to India now surviving in the Andaman Islands and in Malaya. Traces of them seem to occur among the Nagas and the certain tribes in south India.

(2) PROTO-AUSTRALOIDS -- who came from the East Mediterranean area.

(3) EARLY MEDITERRANEAN -- who brought earlier forms of the Austric speech.

(4) CIVILISED OF ADVANCED MEDITERRANEANS -- who became Dravidians in India.

(5) ARMENOIDS -- a specialised offshoot of the standard Alpine stock probably came with the civilised Mediterraneans (Dravidians) and spoke their language.

(6) **ALPINES**—found in Gujarat and Bengal: earlier than Vedic Aryans but probably speaking Aryan dialects.

(7) **VEDIC ARYANS OF NORDICS**—who brought the Vedic Aryans (Sanskrit) speech.

(8) **MONGOLOIDS**—not important for the greater part of India, as they touched only the northern and eastern fringes.

The most recent and authoritative classification divides the people of India into six main races with nine sub-type:-

(1) **NEGRITO** — is now almost extinct in India. a small group is the Kadars and Palapans of Cochin and Travancore-Hills, Irukulas of still surviving in the Andamans, and its traces have been found among the Wynads, the Angami Nagas of Assam and Nagaland and some of the Rajmahal tribes like the Semangs of Malaya and the Papuas of New Guinea, hill-tribes of Bihar. They are related to the Asian and Oceanic: but not to the African Negroes and Negritos.

(2) **PROTO-AUSTRALOIDS**—are related genetically to the Australians as well as the Europeans, they survive in good many aboriginal peoples of the present-day India, although more or less mingled with other people. the majority of the tribal peoples of central and southern India belong to this group. Throughout the greater part of India, the Proto-australoid peoples still live as the lower castes or sections of the Indian people.

(3) **MONGOLOID GROUP** — is found in the mountainous zones of North and Northern India. This group is divided into: (a) Palaeo-mongoloids consisting of long-headed and broad-headed types. They form a dominant element in the tribes in Assam and on the Indo-Burmese frontier and among the less primitive types in Burma and in Chittagong in Bangladesh; (b) Tibeto Mongoloids are found in Sikkim and Bhutan. Their physical characteristics are: short and broad face with high cheek bones, a skin fold from the upper eyelid covering usually the inner eyecorner, giving eye a slit and oblique appearance, scanty hair on face and body, and light-brown skin with a yellowish tint.

(4) **MEDITERRANEAN GROUP** — consists of (a) Palaeo-Mediterranean medium-statured, dark-skinned and light-built, found in Kannada, Tamil and Malayalam tracts; (b) Mediterranean, true European type found in Punjab and in the upper-Gangetic Valley and is supposed to represent civilised pre-Aryan Dravidian people of northern India, who contributed largely to the evolution of Hindu people and culture of North India; (c) Oriental type, sometimes called Semetic or Jewish, found in Punjab, Sind Rajasthan, western U.P. and in some other parts of India.

(5) **WESTERN BRACHYCEPHALS** — consists of (a) ALPINOID, (b) DINARIK and (c) ARMENOID. They seem to have evolved in the central Asian mountain regions. Both Alpine and Dinarik varieties appear to have spread over the greater part of India, i.e. Bengal, Orissa, Kathiawar, Kannada and Tamil countries, Gujarat, West Coast of India, excepting Malabar. The Parsis of Bombay are allied to Armenoids.

(6) **NORDIC**—are the Aryan-speaking group of India, who are largely responsible for India's Hindu civilization and seem to have come from the Eurasian steppe lands and entered India during the second half of the second millennium B.C. The Nordic elements are strong in North-West Frontier of India and in the south to Hindu Kush range. They are present in mixed form in Punjab, Kashmir, Rajasthan and in upper Gangetic valley. They are also found among higher castes and groups. Nordic type also predominates in certain sections in India.

RELIGION—According to 1971 census, of 547 million people of India 82.72 pc. are Hindus, 11.21 p.c. Muslims, 2.60 p.c. Christians 1.89 p.c. Sikhs, 0.70 p.c. Buddhists and 0.47 p.c. Jains.

LANGUAGES — the Constitution of India accepts 15 regional languages. In addition, there are also English language and about 250 regional dialects in India; (For details, see LANGUAGES).

SYSTEM OF NOTATION — The Indian numerical notation system differs from the European. Large numbers are punctuated as crores and lakhs and not in hundreds, thousands and million. A lakh is one hundred thousand (written as 1,00,000) and a crore is one hundred lakhs or ten million (written as 1,00,00,000). (See Currency and Exchange).

CURRENCY—The principal unit of currency in India is the Rupee and Paisa. (See Currency and Exchange).

GEOGRAPHICAL INFORMATION

CONTINENTS

	Area (sq. m.)		Area (sq. m.)
Africa	11,506,000	Europe	3,745,000
Asia	16,988,000	Antarctica	5,500,000
Australia	2,968,000	North America	9,390,000
South America	6,795,000		

OCEANS AND SEAS

OCEANS	Area(sq. m.)	Greatest Depth (ft.)
Pacific	64,186,300	30,246 (Poerto Rico Trench)
Atlantic	33,420,000	30,246(Poerto Rico Trench)
Indian	28,350,500	26,400 (Diamantina Trench)
Aretic	5,105,700	17,880 (Eurasia Basin)
SEAS		
South China Sea	1,148,500	
Caribbean Sea	971,400	
Mediterranean Sea	969,100	

RIVERS

	Length (m.)	Length (m.)
Nile (Africa)	4,415 Lenea (Europe)	2,680
Amazon (Brazil)	4,000 Niger (Africa)	2,600
Yangtse (China)	3,400 Yenisey (Siberia)	2,566
Mekong (Vietnam)	2,600 Missouri (N. America)	2,533
Congo(Africa)	2,718 Mississippi (N. America)	2,348
Amur (USSR)	2,700	

LAKES

	Area (sq. m.)	Area (sq. m.)
Caspian Sea (U.S.S.R.-Iran)	43,550 Michigan (N. America)	22,400
	Baikal (U.S.S.R.)	13,300
Superior (N. America)	31,820 Tanganyika(Africa)	12,700
Victoria-Nyanza(Africa)	26,828 Great Bear (N.America)	12,275
Aral (U.S.S.R.)	25,300 Nyasa (Africa)	11,430
Huron (N. America)	23,010 Great Slave (N.America)	10,980

MOUNTAIN PEAKS

	Height (ft.)	Height (ft.)
Everest (Nepal-Tibet)	29,028 Gasherbrum (India)	26,470
Godwin Austen or K2 (India)	28,250 Gosainthan (Tibet)	26,291
	Annapurna II (Nepal)	26,041
Kanchanjungha (Nepal-India)	28,208 Disteghil (India)	25,868

Lhotse I (Nepal-Tibet)	Himalchuli (Nepal)	25,801
Makalu I (Nepal-Tibet)	27,923 Nujptse (Nepal-Tibet)	25,726
Lhotse II (Nepal-Tibet)	27,824 Maherbrum (India)	25,660
Annapurna I (Nepal-India)	27,560 Nanda Devi (India)	25,645
Dhaulgiri (Nepal)	26,926 Chomo Lonzo (Nepal-Tibet)	25,640
Manaslu (Nepal)	26,811 Rakaposhi (India)	25,550
Cho-Oyu (Nepal-India)	26,760 Kamet (India-Tibet)	25,447
Naga Parvat (India)	26,750 Tirich Mir (Pakistan)	25,230
	26,660 Makalu II (Nepal-Tibet)	25,130

VOLCANOES

ACTIVE	(Height in feet)	QUIESCENT
Gaullatiri (Chile)	19,882 Llullaillaco (Chile)	22,146
Laskar (Chile)	19,652 Kilimanjaro (Tanganyika)	19,340
Catapaxi (Equador)	19,437 Misti (Peru)	19,031
Tupungatito (Chile)	18,504 Cayambe (Equador)	18,996
Propocatepeti (Mexico)	17,887 Pichincha (Equador)	15,696
Sangay (Equador)	17,159 Fujiyama (Japan)	12,388
Tungurahua (Equador)	16,512 EXTINCT	
Catacachi (Equador)	16,197 Aconcagua (Argentina)	22,834
Purace (Columbia)	15,604 Chimborazo (Equador)	20,561
Klyuchevskaya (U.S.S.R.)	15,584 Demaven (Iran)	18,934
Tazumulco (Guatemala)	13,812 Elbruz (U.S.S.R.)	18,481
Mauna Loa (Hawaii)	13,680 Orizaba (Mexico)	17,701

ISLANDS

	OCEAN AREA (sq.m.)	OCEAN AREA (sq.m.)
Greenland Arctic	840,000 Honshu Pacific	88,919
New Guinea Pacific	347,450 Great Britain Atlantic	88,745
Borneo Pacific	307,000 Victoria Arctic	80,450
Baffin Arctic	236,000 Java Pacific	48,763
Madagascar Indian	277,737 Cuba Atlantic	44,206
Sumatra Indian	161,102 Newfoundland Atlantic	42,750

WATER FALLS

By height (Single leap) By	VOLUME OF WATER	Thousands of gallons per second
Angel (Venezuela)	2,648	
Ribbon (California, U.S.A.)	1,612	
King George VI (Guyana)	1,600	
Upper Yosemite (California, U.S.A.)	1,430	
	Wollomombi (N.S.W., Aus.)	1,100
Gavarnie (Pyrenees, France)	1,385 Jog Falls (Karnataka, India)	960
	Guaira (Brazil)	2,900
Tugela (Natal, S. Africa)	1,350 Khone (Laos)	2,500
Glass (Brazil)	1,325 Niagara (U.S.A. Canada)	1,300
Takakkaw (Br. Columbia, Canada)	1,200 Paulo Affonso (Brazil)	600
	Urubupunga (Brazil)	600

DESERTS

	Area (sq.m.)	Area (sq.m.)
Sahara (N. Africa)	3,500,000	Kalahari (Bechuanaland) 200,000
Libya (N.Africa)	650,000	
Great Australian (W. Australia)	600,000	Great Sandy (Part of Australian Desert) 16,000
		Takla Makan (S. Sinkiang, China) 125,000
Arabian (Arabia)	500,000	
Gobi (Mongolia)	400,000	
Rubal Khali (Part of Arabian Desert)	250,000	Kara Kum (S.W. Turkistan, U.S.S.R.) 105,000
		Thar (N.W. India) 100,000

GEOGRAPHICAL SURNAMES

Islands of Pearls — Baharcin (Persian Gulf).	City of Palaces — Calcutta.
World's Loneliest Island — Tristan da Cunha (Mid — Atlantic).	City of skyscrappers — New York
Roof of the World — Pamir.	Dark Continent — Africa
Holy Land — Palestine.	Emerald Isle — Ireland.
Island of Cloves — Zanzibar.	Land of Maple — Canada.
Empire City — New York.	Bengal's Sorrow — Damodar River.
Key of the Mediterranean — Gibraltar.	Never Never land — Vast prairies of northern Australia.
Rose Pink City — Jaipur.	Land of Golden Fleece — Australia
Whiteman's Grave — Guinea coast of Africa.	Cockpit of Europe — Belgium.
Sugar Bowl of the World — Cuba.	Land of Thousand Lakes — Finland.
Windy City — Chicago.	City of Magnificent Distances — Washington D.C.
Venice of the North — Stockholm.	China's Sorrow — Hwang-Ho.
Forbidden City — Lhasa.	Gate of Tears — Strait of Babel Mandeb.
Land of Cakes — Scotland.	Pearl of the Antilles — Cuba.
Granite City — Aberdeen.	The Down Under — Australia.
Eternal City — Rome.	Herring Pond — Atlantic Ocean.
Gift of the Nile — Egypt.	Land of the Rising Sun — Japan.
Gateway of India — Bombay.	Land of Midnight Sun — Norway.
Garden of India — Bangalore.	Land of Morning Calm — Korea.
Hermit Kingdom — Korea.	City of Dreaming Spires — Oxford.
Playground of Europe — Switzerland.	Garden of England — Kent (Eng.)
City of the Seven Hills — Rome.	Britain of the South — New Zealand.
Queen of the Adriatic — Venice.	Blue Mountain — Nilgiri Hills.
Great White Way — Broadway. (New York City).	City of Golden Gate — San Francisco.

GEOGRAPHICAL RECORD-BREAKERS

- Largest Continent — Asia, 16,988,000 sq. m.
 Smallest Continent — Australia, 2,968,000 sq.m.
 Largest N. to S. Stretch of Land — America.

- Largest Ocean — Pacific, 64,186,300 sq. m.
 Smallest Ocean — Arctic, 5,440,197 sq. m.
 Lowest Point on Surface — Dead Sea, Israel-Jordan (1,312 ft. below sea level).
 Deepest Place in the Ocean — Off the Island of Mariana Trench, Philippines where sounding of 35,840 ft. has been reached.
 Highest Mountain System — Himalayas.
 Longest Mountain System — Andes, South America.
 Highest Extinct Volcano — Cerro Aconcagua (Argentina), 22,834 ft.
 Highest Active Volcano — Guayatiri (Chile), 19,882 ft. last erupted in 1959.
 Highest Dormant Volcano — Ojas del Salado, 22,588 ft.
 Highest Plateau — Tibet, 77,000 sq. m.
 Longest River — Nile, 4,145 miles.
 Largest River (in Volume) — Amazon, discharges 4,200,000 cu ft. of water per sec.
 Largest River Basin — Basin of Amazon, 2,720,000 sq. m.
 Largest Lake — Caspian Sea (U.S.S.R. and Iran), 1,39,000 sq. m.
 Deepest Lake — Ozero Baykal (Siberia); 6,365 ft. average Depth.
 Largest Artificial Lake — Lake Mead at Boulder Dam (U.S.A.)
 Highest Sea Mountain — Near the Tonga Trench between Samoa and New Zealand; 28,500 ft. from sea bed.
 Highest wave — 86 ft. recorded in North Atlantic on Dec. 30, 1972.
 Highest Navigable Lake — Lago Titicaca (Peru-Bolivia), 12,506 ft. above sea-level.
 Longest Straits — Tartar Straits between Sakhalin Island and the USSR mainland 497 miles long.
 Broadest Strait — Davis Straits, between Greenland and Baffin Island, 210 miles : Drake Passage (Chile), 710 miles across.
 Narrowest Strait — Between Greek mainland and the island of Euboea, in the Aegian Sea. narrowest point at Chalkis, 45 yds.
 Largest Bay — Bay of Bengal, area: 8,39,000 sq. m.
 Largest Gulf — Gulf of Mexico, shoreline; 3,100 m.
 Largest Gorge — Grand Canyon, Colorado River, Arizona, 217 miles long.
 Deepest Gorge — Colca River Canyon, Southern Peru, 14,339 ft.
 Greatest Tides — Bay of Fundy, Nova Scotia, 47.5 ft.
 Largest Sea — Malayan Sea between the Indian Ocean and the South Pacific, 3,144,000 sq. m.
 Largest Inland Sea — Kaspiskove More (Caspian Sea), (U.S.S.R. -Iran), total area 143,500 sq. m.
 Largest Peninsula — Arabia, 1,250,000 sq. m.
 Shortest River — D. River, Lincoln City, Ore, 440 ft. long.
 Longest Estuary — Often Frozen by in the Northern USSR : it is 15 miles wide.
 Largest Delta — Delta formed by Ganga and Brahmaputra in Bangladesh and West Bengal, India : 30,000 sq. m.
 Biggest Desert — Sahara (N. Africa), 3,200 miles from east to west and 3,250,000 sq. miles.
 Deepest Canyon — Hell's Canyon (U.S.A.) 7,900 ft. deep.
 Deepest Cave — Gouffre Bergea (France), 3,723 ft. deep.
 Highest Capital City — La Paz (Bolivia), 11,916 ft. above sea-level.
 Highest Town — Wenchuan (Tibet), 16,732 ft. above sea-level.
 Highest Village — Aucanquile; in Andes Mountain, Chile-17,500 ft.
 Largest Island — Greenland, 840,000 sq. miles.
 Most Populous City — Tokyo-Yokohama Metropolitan Area (Pop. 29,002,000).
 Densest population — Macao (55,300 per sq. miles).

Hottest Regions—North-West Sahara Azisia (Libya), Death Valley (California) and Thar ert of Nori. Desert of North-West India.

Coldest Regions—Oymyakon in USSR, where temperature is 96° F below zero.

Largest Country—U.S.S.R. 8,649,550 sq. miles.

Smallest Country—Vatican City (108.7 acres).

Northernmost Town—Ny Alesund, Spitsbergen (Norway).

Southernmost Town—Puerto Williams, Chile.

Lowest Town—Villages along Dead Sea, 299 ft. below sea level.

Largest Delta—Sundarban Delta in West Bengal and Bangladesh; 8,000 sq. m.

Highest Waterfall—Angel Falls (Venezuela), 3,212 ft.

Biggest Waterfall—Boyoma Falls (Zaire), average annual flow; 6,00,000 cu. ft. per sec.

Widest Waterfall—Khone Falls (Loas) with a width of 6.7 miles and a flow of 1,500,000 cu. ft. per sec.

Largest Atoll—Kwajalein, Marshall Islands (Central Pacific), with a 176 m. long coral enclosing a lagoon of 1,100 sq. m.

Longest Coral—Reef—Great Barrier Reef (Australia), 1,260 miles long.

Tallest Active Geyser—Giant' in the Yellowstone National Park (U.S.A.) throwing a spate 200 ft. high.

Largest Archipelago—Indonesia, comprising 13,000 islands.

Highest Rainfall—At. Mt. Waialeale, Hawaii Islands, 460 inches, 1912-58.

GENERAL INFORMATION

TOP CITIES OF THE WORLD

	Population		Population
Shanghai	10,000,000	Berlin	3,402,700
Tokyo	8,643,000	Cairo	3,400,000
Great London	8,190,000	Djakarta	3,317,562
New York	8,070,000	Calcutta	7,005,000
Buenos Aires	4,500,000	Moscow	6,330,000
Beijing (Peking)	4,140,000	Bombay	5,968,546
Sao Paulo	3,850,000	Mexico City	4,289,402
Delhi	3,629,842	Leningrad	3,300,000
Chicago	3,550,400	Rio De Jenerio	3,288,000
Hong Kong	3,178,000	Tientsin	3,100,000
Madras	2,470,288	Paris	3,075,678
Manila	3,100,000	Osaka	2,899,000

LONGEST RAILWAY PLATFORMS

	Feet		Feet
Kharagpur (India)	2,733	Sone (India)	2,415
Storvik (Sweden)	2,470	Bulaway (Rhodesia)	2,415

LONGEST RAIL ROAD TUNNELS

	Miles		Miles
Seikan (Japan)	33.5	Simplon no 2 (Switzerland-Italy).	12.3
Ooshimizu, (Japan)	13.8		
Simplon no. 1, (Switzerland-Italy)			

LONGEST BRIDGES

	Feet		Feet
Verrazona-Narrows(New York)	13,700	Forth (Scotland)	8,290
		Golden Gate (U.S.A.)	6,260
		(Argentina)	
		Rio Salado	6,700
Lower-Zambesi(Mozambique, Africa).	12,064	Rio Dulce (Argentina)	5,860
Storrsstrom (Denmark)	10,500	Hardinge(Bangladesh)	5,380
Tay (Scotland)	10,290	Victoria Jubilee (Canada)	5,320
Son (India)	10,052	Moerdijk (Netherlands)	4,700
Godavari (India)	8,880	Sarighat (Assam, India)	4,258

LONGEST DAM

Hirakud (India) .. 15.8 miles

HIGHEST DAMS

	Feet		Feet
Rongunsky (U.S.S.R.)	1,066		
Nurek (U.S.S.R.)	1,040		
Grand Dixence (Switzerland)	935	Bhakra (India)	742
Inguri (U.S.S.R.)	892		
Vaiont (Italy)	858		

LARGEST DAMS*

	Volume (Acre ft.)		Volume (Acre ft.)
Kariba (Rhodesia)	149,000,000	Manicouagan (Canada)	115,000,000
Bratsk (U.S.S.R.)	145,115,000	Portage Mountain (Canada)	62,000,000
High Aswan (Egypt)	127,000,000	Mangla (Pakistan)	45,000,000
Akosombo (Ghana)	120,000,000		

LARGEST DAMS*

	Volume (Cubic yds)		Volume (Cubic yds.)
New Cornelia Tailings (U.S.A.)	274,026,000		
Tarbela (Pakistan)	158,268,000	Guri (Venezuela)	92,557,000
Fort Peck (U.S.A.)	125,612,000	Oahe (U.S.A.)	92,008,

LONGEST HIGHWAY TUNNELS

	Miles
St. Golthard (Switzerland)	10.01
Mont Blanc (France-Italy)	3.6
Great St. Bernard (Italy-Switzerland)	

LONGEST SHIP CANALS

	Miles		Miles
St. Lawrence Seaway (U.S.A.)	189	Volga - Moscow (U.S.S.R.)	80
		Kiel (Germany)	61.3
Gota (Sweden)	115	Volga - Don (U.S.S.R.)	60
Suez (Egypt)	100.6	Panama (U.S.A.)	50.7

* Earthfil

NOTABLE TELESCOPE

Name of Observatory and Location	Diameter in inches
Refractors	
Yerkas, Williams Bay, Wisconsin (U.S.)	40.0
Lick Mt. Hamilton, California (U.S.) ..	36.0
University of Paris, Meudon (France) ..	32.7
Astrophysical, Potsdam (Germany) ..	32.0
Alleghany, Pittsburg (U.S.) ..	30.0
University of Paris, Nice (France) ..	29.1
Pulkova, Leningrad (U.S.S.R.) ..	30.0
U.S. Naval, Washington D.C. (U.S.) ..	26.0
University of Virginia (U.S.) ..	26.0
Yale, Univeristy, Canberra (Australia) ..	26.0

Reflectors

Academy of Science of the U.S.S.R. ..	236
Hale, Mt. Palomar, California (U.S.) ..	200
Smithsonian Astrophysical Observatory, (U.S.A.) ..	175
Kitt Peak National Observatory, Tucson, Arizona ..	158
Cerro Tololo Inter American Observatory, Chile ..	158
Anglo-Australian Telescope, Australia ..	153
British Infrared Telescope, Hawaii ..	150
Canada-France-Hawaii Telescope, Hawaii ..	144
European southern Observatory, Chile ..	142
Max Planck Institute of Astrophysics, W. Germany ..	138
NASA-U of Hawaii, Hawaii ..	126
Lick, Mt. Haminton, California (U.S.) ..	120
Cremean Astrophysical (U.S.S.R.) ..	104
Mt. Wilson, Pasadena, California (U.S.) ..	100
Newton Royal (Great Britain) ..	98
Kitt Peak National, Arizona (U.S.) ..	84
McDonald, Mt. Locke, Texas (U.S.) ..	82
Tautenberg, Thuringen (Germany)	
Saint Michael, Basses Alpes (France) ..	77
David Dunlop, Richmond Hill, Ontario (Canada) ..	74
Radcliffe, University of S. Africa, Pretoria (S. Africa) ..	74
Mt. Stromlo, Canberra (Australia) ..	74
Helwan, Helwan (Egypt) ..	74
Okayama Astrophysical Laboratory, Kamogata (Japan) ..	74
Tokyo (Japan) ..	74
Dominion Astrophysical, Victoria (Canada) ..	72
Perkins Flagstaff, Arizona (U.S.) ..	72
Harvard, Oak Ridge, Massachusetts (U.S.) ..	61
U.S. Naval, Arizona (U.S.) ..	61

S.C.E.R.T., West Bengal

Date 25.2.91

4852

Acc. No.



*Earthfil.

FAMOUS BELLS

	Weight (tonners)
Tsar Kolokol (Kremlin, Moscow), 1733	193
Moscow Bell (Moscow)	128
Mingoon (Mandalay, Burma)	87
Chonan (Honshu, Japan)	
Cordoba, Bosque Alegre (Argentina)	60
Arizona University, Tucson, Arizona (U.S.A.)	60
Harvard, Bloemfontein (S. Africa)	60
Great Bell of Beijing (Peking, China)	53
Kaisarglock (Cologne Cathedral, Germany), 1925	25

HIGHEST BUILDING AND STRUCTURES

	Feet
K.T.H.I. T.V. - Mast (Fargo, N. Dakota, U.S.A.)..	2,063
C.N.R. Tower, (Toronto, Canada) ..	1,815
W.B.I.R. - T.V. Mast (Knoxville, Tennessee, U.S.A.) ..	1,749
K.F.V.S. - T.V. Mast (Cape Girardeau, Missouri, U.S.A.)	1,676
W.G.A.N. - T.V. Mast (Portland, Maine, U.S.A.)	1,619
K.W.T.V. - T.V. Mast (Oklahoma City, U.S.A.)	1,572
World Trade Centre (N Y)	1,350
Empire State (N Y)	1,250
Standard Oil (Chicago, USA)	1,136
T.V. Tower (Tokyo)	1,092
Leningrad TV Mast (USSR)	1,060
Chrysler (NP)	1,046
Eiffel Tower (Paris)	984 1/2
60 Wall Tower (NY)	950
40 Wall Tower (NY)	927
Bank of Manhattan (NR)	900

LARGEST MERCHANT SHIPS

	DWT Tonnage
Pierre Guillaumat (France)	555,031
Bellamy (France)	553,662
Bathilus (France)	550,001
Esso Pacific (Liberia)	516,423

LARGEST PASSENGER LINES

	Passenger Capacity	Gross Tons
Queen Elizabeth II (Britain)	1,970	66,852
Canberra (Britain)	2,400	44,807
Orianna (Britain)	2,217	41,910
United States (USA)	1,930	38,216

BIGGEST, LARGEST, HIGHEST, LONGEST

Largest Tree —	A California Redwood in Sequia National Park, California; 272 ft. 4 in. tall with a base circumference of 101 ft. 7 in.
Tallest Tree —	Howrad Libbey Tree — a California Redwood in Humboldt Country, California (USA); Height: 385 ft.
Largest Passenger Ship —	Queen Elizabeth II (Britain)
Largest Merchant Ship —	Pierre Gullaunmat (France)
Longest Seaway —	St. Lawrence Seaway (US), 189 miles.
Largest Diamond Mine —	At Kimberly, South Africa.
Largest Diamond —	Cullinan (over 1/2 lbs.).
Tallest Statue —	Statue of Liberty (New York), 305 ft. from the base of the pedestal to the top of the torch.
Largest Temple —	Angkor-Wat (Cambodia), 1,400 yds.
Largest Church —	Basilica of St. Peter, Vatican City, 611 ft. 4 in. length and 18,110 sq.yds. in area.
Tallest Church —	Ulm. Cathedral (Germany) 529 ft. high.
Largest Mosque —	Umayyad Mosque (Damascus) 3.76 acres in area.
Longest Corridor —	Rameswaram Temple's Corridor (India), 4,000 ft.
Longest Port —	New York Harbour (USA).
Largest School —	South Point High School, 12,350 regular students.
Largest Synagogue —	Temple Emanu-El on Fifth Avenue, (N Y).
Largest Movie Theatre —	Radio City Music Hall, (New York) accomodates 5,882 seats.
Largest Studio —	Universal Studio at Universal City, Los Angeles.
Largest Hanger —	Hanger 375 at Kelly Air Force Base, San Antonio.
Longest Railway Platform —	Kharagpur (India) 2,733 ft.
Biggest Railway Station —	Grand Central Terminal (New York) with 47 platforms and 67 tracks, 48 acres in area.
Largest Pearl —	Pearl of Allah, weights 14 lbs, 2 oz.
Largest Bell —	Tsar Kolokol at Kremlin (Moscow), weights 193 tons, is 22 ft. 8 in. in diameter and over 19 ft. high.
Deepest Mines —	East Rand Proprietary Mine (Transval, S.Africa), 12,500 ft. deep.
Largest Telescope —	Hale, on Mt. Polomar, (California, USA), diameter of reflector is 200 inches.
Largest Dome —	Above Pittsburg Civic Arena (Pennsylvania, USA), 415 ft. in exterior diameter.
Longest Aquaduct —	Colorado River Aquaduct (California, USA), 242 m. long.
Largest Highway Tunnel —	St. Goethard (Switzerland) 10.14 miles.
Biggest Library —	United States Library of Congress (Washington, D C). It contains over 41,874,900 titles.
Tallest Tower —	Eiffel Tower (Paris), 948 1/2 ft. high.
Largest University Building —	Lomonosov University (Moscow), has 32 stories and 40,000 rooms.
Largest Palace —	Imperial Palace, Peking, 177.9 acres.
Deepest Boring —	An oil well of 25,340 ft. (Texas, US).
Largest Theatre —	Perth Entertainment Centre (Perth), accomodates 8,003 persons.
Longest Viaduct —	Lake Ponchatrain Causeway (Louisiana, U.S.) with a total length of 24.0 miles.
Highest Lighthouse —	Bishop Rock (England), 146 ft. high.

Largest Sculptures —	Mount Rushmore National Memorial (Black Hills, S. Dakota, USA) with busts of president G. Washington, T. Jefferson, T. Roosevelt and A. Lincoln.
Largest Concrete Dam —	Grand Coulee on Columbia River (USA), 10,585,000 cubic yards.
Highest Dam —	Rogunsky (USSR), 1,098 ft.
Largest Dam —	New Cornelia Tailings (USA), 274,015,735 cubic yards.
Longest Dam —	Pacyreta Apipe (Paraguay-Argentina) 44.7 miles in total length.
Highest Straight Gravity Dam —	Bhakra Dam (India). 740 ft.
Largest Power Plant —	Grand Coulee, Wash., 10,080 miles capacity.
Largest Railway Bridge —	Lower Zambezi (Mozambique, Africa), 12,054 ft.
Longest Cantilever Bridge —	Quebec (over St. Lawrence River, Canada), 3,239 ft. in overall length.
Longest Suspension Bridge —	Humber Estuary Bridge, England, 1,37 miles.
Tallest Building —	Sears Tower (Chicago), 110 Stories, 1454 ft.
Largest Office Building —	World Trade Centre in NYC with a total of 4,370,000 sq.ft.
Largest Shopping Centre —	W. Edmonton Hall, Alberta, Canada, 828 stories.
Longest Railroad Tunnel —	Seikan (Japan), 33.46 miles.
Largest Park —	Kafue National Park (Zambia, Africa), 8,650 sq.m. miles
Biggest Zoo —	Etosha Reserve (SW Africa), 38,500 sq.m.
Largest Airport —	King Khalid International Airport (Riyadh, Saudi Arabia), 86 sq.miles.
Longest Thoroughfare —	Broadway (New York)
Biggest Museum —	American Museum of Natural History with 19 interconnected buildings ; floor are : 23 acres.
Largest Aquarium —	John G Shedd Aquarium, Illionois, (USA) exhibiting over 10,000 specimens from 350 species.
Biggest Hotel —	Hilton Hotel, Las Vegas, 3174 bedrooms.
Biggest Stadium —	Strahov Stadium (Parague), accommodates 240,000 spectators.
Biggest Auditorium —	Municipal Auditorium at Atlantic City (USA), covers an area of acres accommodating 41,000 people.

THE CALENDAR

NATIONAL CALENDAR.— SAKA YEAR : The Government of India have adopted a uniform, National calendar, based on the Saka era, for civil purposes. This Calendar has been adopted with effect from March 22, 1957 corresponding to Chaitra 1, 1879 Saka. The year, A.D. 1980 is 1902 of the revised Saka era (31 December, 1979 was 10 Pousa, 1901).

The pre-eminence of the Saka era derives from the fact that it was used exclusively by the Sakadvipi Brahmins (the astrologer caste) for calendarmaking and forecasting horoscopes since 1st century A.D. This was done on the basis of Siddhantic (scientific) astronomy evolved from old Indian calendar conceptions. which were put on a scientific basis by blending them with astronomical conceptions prevalent in the West in the 3rd century. The Saka era is 78 years behind the Christian era. The Saka year commences on the first lunar Chaitra or the first solar Vaisakha in different parts of India, it was introduced by the Kushana King Kanishka.

Chaitra is the first month of the year. It consists of 30 days in the common years and 31 days in a leap year. The five months following the month of Chaitra consists of 31 days each and the last six months all have 30 days. The dates of the reformed Indian Calendar has thus a permanent correspondence with the dates of the present Gregorian Calendar, the corresponding dates being Chaitra 1, March 22 in a common year and March 21 in a leap year; Vaisakha 1, April 21; Jaisthya 1, May 22; Ashada 1, June 22; Sravana 1, July 23; Bhadra 1, August 23; Asvina 1, September 23; Kartika 1, October 23; Agrahayana 1, November 23; Pousa 1, December 22; Magha 1, January 21; and Phalgun 1, February 20.

INDIAN CALENDAR — THE VIKRAMA OR SAMVAT era is most widely used, specially in northern India, Rajasthan, Gujarat and is believed to have been established by Vikramaditya, King of Ujjain, to commemorate his victory over Saka kings. It commenced on February 23, 57 B.C. Samvat is a luni-solar year. The year A.D. 1983 is therefore, the year 2039 of the Samvat era.

Bengali year, was originally a reckoning for agricultural and revenue purposes, instituted at the time of Akbar. In 1955-56 A.D. corresponding to Hijri 962-3, it became the Fasli or harvest era of northern India and was adopted as official era in Bengali.

CHAITANYA ERA — Chaitanya era commenced from 1407 A.D.

KALI YUGA — The oldest era of India is the Kali Yuga. The Kali Yuga began on the 18th Feb. 3102 B.C. Thus the Kali Yuga is 5079 in 1977.

MAHOMEDAN CALENDAR — The Mahomedan era dates from the Hijri or the flight of Mahomed from Mecca to Medina (July 16, 622 A.D. in the Gregorian Calendar).

CHRISTIAN CALENDAR — Until 1582 the Calendar, used in all Christian countries was the Julian Calendar, in which the last year of all centuries was a leap year. By the sixteenth century this had caused a difference of 10 days between the tropical and calendar years. In 1582, Pope Gregory ordered that October 5 should be called October 15, and that of the years at the end of centuries only every fourth one should be a leap year. The new Calendar was called the Gregorian Calendar and was gradually adopted throughout the Christian world. It came to be used throughout British Dominions in 1752.

LEAP YEAR — The present ordinary calendar year consists of 365 days and in order to allow for hours, minutes and seconds unaccounted for, the leap year of 366 days was invented. This happens every 4th year, in years which can be divided by 4, except that unless century-years (i.e. 1800, 1900) can be divided by 400, they are not considered as leap years. Thus 1900 was not a leap year, but 2000 will be one.

JEWISH CALENDAR — This is calculated from the supposed date of Creation (set at 3,760 years 3 months before the birth of Christ). The ordinary Jewish year has 354 days and is made up of 12 months. Every 19 years, however, has 7 years of 384 days and this adjustment brings the Jewish Calendar into line with the regular solar year. The Jewish months have 30 and 29 days alternately and are called Tishri, Marcheshvan, Kislev, Tebet, Shebet, Adar, Ve-Adar, Nisan, Iyar, Sivan, Tammuz, Ab, Ellul. In years of 384 days an extra month of 30 days, called Ve-Adar, is inserted after Adar. The Jewish New Year's Day comes sometimes between Sept. 5 and Oct. 5 in the Gregorian Calendar.

ZOROASTRIAN CALENDAR — Employed by the Zoroastrians in India and Iran, began on June 16, 632 B.C.

BUDDHIST CALENDAR — It is reckoned from the death of Buddha in 543 B.C., (the actual date being 487 B.C.). The Buddhist year began on Vaisakhi Purnima.

HINDU CALENDAR — Hindus have employed luni-solar cycles made by the combination of solar years and lunar years so treated as to keep the beginning of the lunar year near that of the solar year. In some parts of India solar years are used, while in other parts lunars are followed.

A solar year is divided into 12 months in accordance with the successive Sankrantis or entrances of the sun into the sidereal signs of Zodiac. The names of the signs are :

Mesha, the ram (Aries); Vrishabha, the bull (Taurus); Mithuna, the pair (Gemini); Karkata, the crab (Cancer); Singha, the lion (Leo); Kanya, the maiden (Virgin); Tula, the scale (Libra); Vrischika, the scorpion (scorpio); Dhanu, the bow (Sagittarius); Makara, the sea monster (Capricorn); Kumbha, the water pot (Aquarius); Mina, the fishes (Pisces).

But they are also known in some parts by another set of names preserving connection with the lunar months — Chaitra, Vaisakha, Jaisthya, Ashada, Shravana, Bhadra, Asvina, Kartika, Margasirsa or Agrayayana, Pausa, Magha and Phalgun.

The astronomical solar months runs from the moment of one Sankranti of the sun to the moment of the next Sankranti and as the signs of the Hindu Zodiac are all of equal length, 30 degrees, while the speed of the sun varies in accordance to the time of the year, the length of the month is variable.

The days of solar month begin with sunrise and are named as follows; Ravivara, the day of the Sun (Sunday); Somvara, the day of the Moon (Monday); Mangalvara, the day of the Mars (Tuesday); Bhudhvara, the day of the Mercury (Wednesday); Brihaspativara, the day of

Jupiter (Thursday); Sukravara, the day of Venus (Friday); Sanivara, the day of Saturn (Saturday).

The lunar year consists primarily of 12 lunar months. It is of two principal varieties according as it begins with a certain day in the month of Chaitra or with the corresponding day in Kartika. The Present name of the lunar months were derived from 12 out of 27 Nakshtras supposed to be companions of the moon during 12 full-moon nights.

YEAR — The Tropical year is the time the earth takes to go round the sun, 365.2422 solar days. The Calendar year consists of 365 days but a year, of which the date can be divided by 4 without a remainder is called a leap year, with one day being added to the month of February. The last year of a century is a leap year, only when its number can be divided by 400 (e.g. 1900 was not a leap year but 2000 will be one).

SEASONS — Summer, the first and warmest season of the year, begins at the Summer Solstice when the Sun enters the sign of Cancer (about June 21). But in popular parlance Summer in India includes the months of April and May (Vaisakha and Jaisthya). The second season, Monsoon or Rainy, starts sometime in June and continues up to August (Ashada and Sravana). The third season, Autumn begins at the Autumnal Equinox (i.e. about September 21, when the Sun enters the sign Libra, the beginning of which sign is at the intersection of the Equator and the Ecliptic, the point in the sky where the Sun crosses from N. to S. of the Equator and causes the length of day and night to be equal all over the world. In India, it is popularly held to include the months of September and October (Bhadra and Asvina). In India, we count Hemanta as the fourth season which is generally included in the Autumn season in western countries. This season ranges through October and November (Kartika and Agrahayana). Winter, the fifth and coldest season, begins at the Winter Solstice (i.e. about Dec. 21) when the Sun enters the sign of Capricorn and ends at the Vernal Equinox. In India the season is popularly held to comprise the months of November, December and January (Pousa and Magha). Spring, the sixth season of the year, is defined to begin in the northern hemisphere at the Vernal Equinox when the Sun enters the sign Aires (i.e. about March 21) and crosses the Equator, thus causing the day and night to be of equal length all over the world. In India, Spring in popular parlance comprises the months of February and March (Phalguna and Chaitra).

TIME — Standard time is reckoned from Greenwich, a village near London, England. It is recognised as the Prime Meridian of Longitude. The world is divided into 24 zones, each 15° of arc one hour in time apart. The meridian of Greenwich (0°) extends through the centre of the initial zone and the zones eastward are numbered from 1 to 12 with the prefix 'minus' indicating the number of hours to be subtracted to obtain Greenwich Time. The zones westward are similarly numbered but prefixed 'plus' showing the number of hours that must be added to get Greenwich Time.

Local Time — When the system of local time is used, it is 12 o'clock (noon) at any region where the sun is at highest point in the sky, and shadows are cast in a line extending north and south.

Longest and Shortest Days — The longest day is the day on which the sun is at its greatest distance from the equator; this is called Summer Solstice. It varies between June 21 and 22.

The shortest day is the day of the Winter Solstice and is now December 22 in every year; later in this century it will be December 21 in some years.

Summer Time — means putting forward of the clock by one hour during months of summer — was first introduced in the First World War. Its purpose then was to cut down the use of power for lighting; but in peace time it was continued so that people might enjoy longer summer evening.

International Date Line — is an imaginary line extending north and south through the Pacific Ocean, and is the point at which the traveller must add or subtract a day from the calendar. On a journey westward across the Pacific, he must add a day; when travelling eastward, he is required to set the date back by one day.

Indian Standard Time — The Indian Standard Time which is 5½ hours ahead of the Greenwich Mean Time, was first adopted on 1st January, 1960. India now follows Indian Standard Time.

Dog Days — These are the days about the rising of the Dog Star, the hottest period of the year in the northern hemisphere. Roughly they are between July 3 and August 25.

ASTRONOMICAL DATA

SYSTEM — Consists of one star (sun), nine planets and all other satellites (moons), several thousand minor planets (also called asteroids) and equally large number of comets. The centre of the solar system is the sun, our earth being one of the planets revolving round it.

PLANETS — Planet is a large solid body that revolves round the sun or another star. Earth is one of the planets of the sun. There are nine such known planets, such as mercury, venus, earth, mars, jupiter, saturn, uranus, neptune and pluto, all revolving round the sun.

	Average distance from sun (in miles)	Speed in solar orbit (in miles per second)	One revolution around sun	Diameter (in miles)
Mercury	36,000,000	29.8	88 days	3,100
Venus	67,200,000	21.8	116.8 days	7,519
Earth	92,000,000	18.5	365.26 days	7,926
Mars	141,500,000	15.0	687 days	4,218
Jupiter	483,300,000	8.1	11.86 years	88,372
Saturn	886,100,000	6.0	29.46 years	74,316
Uranus	1,782,800,000	4.2	84.01 years	29,200
Neptune	2,792,500,000	3.4	164.8 years	27,700
Pluto	3,675,000,000	3.0	247.7 years	3,000

SUN — Our sun is a star and is the centre of the solar system. It is a huge ball of gases that is so hot that they give off light due to the energy released by thermonuclear fusion. It is this star which gives the earth light and heat. By the force of gravitational attraction, the sun keeps the planets in their regular orbits and pull them through space at the rate of about 12 miles per second.

The diameter of the sun is 864,000 miles. It consists of 2.2 octillion tons of gaseous matter, most of which is ionised hydrogen and helium. It revolves round its axis once in 25 days 9 hours and is approximately 92,900,000 miles from the earth. Sunlight travels at the speed of light, reaching Earth about 8 minutes and 20 seconds after being radiated from the sun. The Sun travels around the centre of the Milky way at about 150 miles per second, taking 225 million years to make one orbit around the galaxy. Its surface temperature averages 11,000° F. Its most prominent features are solar storms called **SUNSPOTS** — dark areas as large as 80,000 miles across. These spots usually occur in pairs and move from left to right across the visible solar face as the sun rotates.

STAR — is a large sphere of glowing ionised gas in space. Some stars are so far away that they are seen only as points of light in the night sky. Stars are very large and are intensely hot, deriving their energy from thermonuclear reactions going on in their interiors.

GALAXY — All the stars we see in the sky (with a very few exceptions), are part of a Galaxy — a system of roughly 30 billion stars. A cursory glance in the sky is sufficient to show that fainter stars are concentrated towards the region of the Milky Way. It is now known that this system, called the Galaxy, is about 108,000 light years in diameter and has thickness less than 5,000 light years. Milky Way is the centre plane of the system. The Sun is 25,000 to 30,000 years from the centre of galaxy.

ASTEROIDS — are actually little planets. They travel round the sun just as big planets do. More than 1,500 asteroids have been recognised and many more are believed to exist. **CERES** with its diameter of about 480 miles is the largest asteroids.

CONSTELLATIONS — A group of stars that, as seen from the earth, seemed to ancient people to form pictures in the sky. The constellations appear in different parts of the sky at different times of the year. The names they gave to the constellations tell us what pictures they saw.

METEORS — are pieces of Matter which fall on the earth out of space. They plunge into earth's atmosphere at great speed and become incandescent from the resultant friction, so that they are seen in the sky as fire balls or 'shooting stars'.

METEORITES—Any mass of metal or stone that has fallen on earth from outer space. Meteorites range in size from pebbles to gigantic masses weighing over 100,000 pounds.

AURORAS—The 'northern lights' (**AURORA BOREALIS**) as well as the 'southern lights' (**AURORA AUSTRALIS**) are upper-atmospheric phenomena but of astronomical origin. Aurora Borealis is a broad display of rather faint light in the northern skies at night. This Aurora appears in a wide variety of forms. Sometimes it is seen as a quite glow, almost fog-like in character; sometimes as vertical streamers in which there may be considerable motion; sometimes as a luminous series of expanding arcs. These are of many colours. The Aurora Australis is a similar phenomenon seen in southern skies.

COMETS—are heavenly bodies of luminous and nebulous appearance, that move round the sun in an orbit which is normally an elongated ellipse. Ordinarily a comet has a head of cloudy brightness. Sweeping from the head, curves the tail which extends sometimes to great or small length. A few comets travel in hyperbolic orbits, never returning, but most comets return over a period of years. The most famous is the Halley's Comet which can be seen every seventy years. Comets are enormous snow-balls of frozen gases containing very little solid material.

SATELLITES—are heavenly bodies revolving around larger heavenly bodies. Planet Saturn has nine known satellites. The earth has one, the MOON. A number of artificial satellites have been placed in the orbit around the earth by means of rockets fired into space. These satellites carry instruments and cameras.

EARTH—is called a planet because it circles the sun. In shape, it is almost a sphere being slightly flattened at the poles, as well as being rather pear-shaped, with the pear's stalk at the North Pole. The whole surface of the earth is blanketed by a layer known as atmosphere. Its total area is 196,940,000 square miles. Its diameter from Pole is 7,899.83 miles and at the Equator 7,926.41 miles. Its average distance from the sun is 92,900,00 miles. Polar circumference (distance around earth at poles) is 24,859.82 miles and Equatorial circumference (distance at equator) is 24,901.55 miles. The earth has two movements within the solar system: (1) It revolves round the sun in an elliptical path, making a complete revolution in 365 days 6 hrs. 9 m. and 9.54s., its speed on its path being 18 1/2 miles per second or 66,600 miles per hour. The travelling of the earth around the sun helps to cause seasons. (2) It spins on its polar axis at the rate of one in 24 hours. Atmosphere of earth extends about 1000 miles above surface.

MOON—is the satellite of the earth. It is nearer to the earth than any other of the stars or planets. It has a diameter of 2,160 miles and its average distance from the earth's surface is 238,900 miles. It revolves round the earth once in 27 days 7 hrs. 43.2 min. and its speed on its orbit is 2,300 miles per hour. Because the moon is so near the earth, it exercises a gravitational pull on the earth's seas and oceans, and this gives rise to the earth's tides.

The moon does not give off light of its own but appears to shine because of the sun-light falling on it and reflected from it.

ATMOSPHERE—The atmosphere is composed of air which surrounds or envelopes the whole earth. It is sometimes likened to a great sea of gases, at the bottom of which we live. This air which surrounds the globe, affects the light that occurs to us from heavenly bodies. It refracts light rays that enter into it. Due to this refraction, we see the sun and the moon before they rise and after they set. The 'twinkling' of the stars is caused by convection currents in the air, that have rapidly changed refractive effects on the light from the stars. **TWILIGHT** is produced by the diffusion in the atmosphere of light from the sun, when it is below the horizon. Chemically the atmosphere is composed of nitrogen (80%), oxygen (20%) and negligible amounts of argon, helium, hydrogen and carbon dioxide.

SCIENCE

GREAT INVENTIONS

Invention	Inventor	Country	Year
Adding Machine	Burroughs	U.S.	1885

Addressograph	J.S. Duncan	U.S.	1893
Air-brake	G. Westinghouse	U.S.	1868
Air Conditioning	W.H. Carrier	U.S.	1911
Airplane	W. & O. Wright	U.S.	1903
Air Pump	Von Guericke	Germany	1650
Automobile	Karl Benz	Germany	1885
Bakelite	L.H. Baekeland	U.S.	1907
Ball-bearing	Vanghan	Britain	1794
Balloon	Montgolfier Bros,	France	1783
Barometer	E. Torricelli	Italy	1643
Bessemer Converter	Sir H. Bessemer	England	1856
Bicycle	Macmillan	Scotland	1842
Camera (Photographic)	Joseph Nippce	France	1826
Curburretor	G. Daimler	Germany	1879
Cash Register	James Ritty	U.S.	1876
Celluloid	John W. Hyatt	U.S.	1870
Cinemascope	Aspdin	England	1845
Cement, Portland	Henri Chretien	France	1931
Clock, Pendulum	G. Huygens	Netherlands	1656
Coke Oven	Hoffman	Austria	1893
Computer (Analog)	Vennevar Bush	U.S.	1930
Computer (Digital)	Howard Aiken	U.S.	1944
Cotton Gin	Eli Whitney	U.S.	1793
Cyclotron	E.O. Lawrence	U.S.	1931
Diesel Engine	Rudolf Diesel	Germany	1895
Dynamite	Alfred Nobel	Sweden	1866
Dynamo	Piciniotti	Italy	1860
Electric Fan	Schuyler S. Wheeler	U.S.	1886
Electric - magnet	W. Sturgeon	England	1825
Electric Generator	Michael Faraday	England	1831
Electric Lamp	T.A. Edison	U.S.	1879
Electric Motor, A.C.	Nicola Tesla	U.S.	1892
Elevator, Passenger	E.G. Otis	U.S.	1857
Fountain Pen	L.E. Waterman	U.S.	1884
Gramophone	Berliner	U.S.	1887
Gyrocompass	E.A. Sperry	U.S.	1905
Gyroscope	Leon Foucalt	France	1852
Helicopter	Sikorski	U.S.	1939
Hydroplane	Glen Curtiss	U.S.	1911
Iconoscope	Zworykin	U.S.	1923
Internal Combustion Engine	G. Daimler	Germany	1885
Jet Propulsion	Sir Frank Whittle	England	1930
Kalidoscope	David Brewster	England	1837
Kodak	George Eastman	U.S.	1888
Lamp, Incandescent	T.A. Edison	U.S.	1879
Laser	Gordon Gould	U.S.	1957
Lynotype	O. Mergenthaler	U.S.	1885
Locomotive, Steam	R. Trevithick	England	1801
Loudspeaker	Pin-Kellog	U.S.	1924
Machine Gun	R.J. Gatling	U.S.	1861

Match Friction	John Walker	England	1827
Microphone	Berliner	U.S.	1877
Microscope, Compound	Z. Janssen	Netherlands	1590
Motor Cycle	G. Daimler	Germany	1885
Motor Scooter	Greville Bradshaw	England	1919
Movie Projector	T.A. Edison	U.S.	1893
Nylon, Synthetic	W.H. Carothers	U.S.	1936
Parachute	F. Blanchard	France	1785
Phonogram	T.A. Edison	U.S.	1877
Photography, Black & White	Louis Daguerre	France	1837
Photography, Colour	Lippman	France	1891
Pistol	Colt	U.S.	1835
Plastic (Celluloid)	John W. Hyatt	U.S.	1869
Pneumatic Tyre	Dunlop	North Ireland	1888
Printing Press	Gutenberg	Germany	1450
Quick Freezing of Food	Birdseye	U.S.	1925
Radar	Taylor & Young	U.S.	1922
Radio	G. Marconi	Italy	1895
Railroad (Steam)	G. Stephenson	England	1825
Rayon	Swan	England	1883
Reaper	C. McCormick	U.S.	1834
Refrigeration, Mechanical	Parkins	U.S.	1834
Rifle, Automatic	John M. Browning	U.S.	1918
Rocket, Liquid Fuel	R.H. Goddard	U.S.	1929
Rubber, Vulcanized	G. Goodyear	U.S.	1839
Safety Lamp	Sir H. Davy	England	1816
Safety Pin	Walter Hunt	U.S.	1849
Safety Razor	Gillette	U.S.	1895
Sewing Machine	Elias Howe	U.S.	1846
Sleeping-car	G.M. Pullman	U.S.	1858
Slot Machine	Charles Fey	U.S.	1895
Spectacles (Curved Glass)	Salvino Armado	Italy	1285
Spinning Jenny	J. Hargreaves	England	1767
Spectroscope	Kirchaff-Bunsar	Germany	1859
Stainless Steel	Harry Brearley	England	1913
Steam Engine	James Watt	Scotland	1765
Steamboat	Robert Fulton	U.S.	1803
Stethoscope	Laennec	France	1819
Stove (Gas)	Robert W. Bunsen	Germany	1855
Submarine	John P. Holland	U.S.	1891
Tank, Military	E. Swinton	England	1914
Telegraph	Samuel Morse	U.S.	1832
Telephone	A. Graham Bell	U.S.	1876
Telescope	H. Lippershay	Netherlands	1608
Television	John L. Baird	England	1926
Thermometer, Mercuric	G.D. Fahrenheit	Germany	1714
Thermos Flask	J. Dewar	England	1892
Torpedo	Whitehead	England	1866
Tractor Caterpillar	B. Holt	U.S.	1900

Transistor	Bardeen, Schockley and U.S.	1947
	Brattain	
Typewriter	C. Sholes	U.S.
Vacuum Tube	Lee de Forest	U.S.
Watch (Main Spring)	Peter Henlein	Germany
Watch (Self Winding)	Lewis Recordon	England
X-ray Machine	W.K. Roentgen	Germany
Zipper	W.L. Judson	U.S.
		1891

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 MULTIPLE PRODUCTION, LAWS OF : John Dalton, 1808.
 OHM'S LAW : G.S. Ohm, 1827.
 ORIGIN OF SPECIES : C. Darwin, 1859.
 PERIODIC TABLE : D. Mendeleef, 1869.
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 PSYCHO-ANALYSIS, THEORY OF : Sigmund Freud, 1904.
 QUANTUM THEORY OF RADIATION : Max von Planck, 1901.
 QUANTUM MECHANICS : Neils Bohr (Denmark), Werner Heisenberg (Germany).
 Erwin Schrodinger (Germany), O.A.M. Dirac (England).
 REFRACTION OF LIGHT, LAWS OF : W. Snell, 1621.
 RELATIVITY, THEORIES OF : A. Einstein, 1905.
 RADIO-ACTIVITY : A. Becquerel, 1896.
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WATER, SYNTHESIS OF : H. Cavendish, 1781.

ATOMIC ENERGY

Just as the Space Age is said to have started with the orbiting of Sputnik I, the Atomic age is said to have started with the explosion of a test bomb on July 16, 1945, near Alamogordo, N.M., USA at 5.30 a.m. local time. The bomb was placed on top of a steel tower, and observers were stationed in bunkers 10,000 yards away. The explosion vaporized the steel tower, produced a mushroom cloud rising to 40,000 ft. and melted the desert sand into glass for distances upto 800 yds from the tower.

The first operational use of an atom bomb took place only three weeks later, when a uranium bomb was exploded over Hiroshima, Japan, on Aug. 6, 1945. The Bomb, cylindrical in shape, 10 ft. long with a diameter of 2 ft. 4 in., weighted about 9,000 lbs. Its explosive force was equal to 20,000 tons of TNT, hence the term "20-kiloton bomb". Three days later, another atomic bomb, this time of plutonium, was exploded over Nagasaki.

Of course, the Atom Age did not begin with the explosion of the above two bombs. In both cases visible feats were just experiments which proved the theory that had been built up patiently over decades.

At the turn of the century, scientists began to wonder whether the atoms of the chemical element might not be composed of smaller particles. This was actually a contradiction in terms, because the Greek word atoms, from which the word atom derived, means "undivisible". But there were some indications of particles smaller than an atom—the electrons. In 1905, Albert Einstein suggested that matter might just be "condensed energy" and gave the conversion formula $E = mc^2$, in which E REPRESENTS THE ENERGY, M the mass, and C the velocity of light. If this formula was correct, a small piece of matter should represent enormous amount of energy.

FISSION AND FUSION

As is now generally known, atomic energy can be released into two ways. One is the fission of elements with very heavy atoms, such as uranium and plutonium, which will split when struck by a neutron, a sub-atomic particle. The heavy nucleus is split into almost equally heavy nuclei. But the total mass of the products is less than the mass of the original nucleus. The difference in mass is converted to energy in conformity with the relation $E = mc^2$. The splitting of the heavy atom releases more neutrons, which are then available to split other atoms—the so-called chain reaction. The other way of obtaining atomic energy is fusion; four light atoms (hydrogen) are fused together into the next heavier element (helium). In fusion the mass of the Helium is also less than the sum of the masses of Hydrogen nuclei which combine to form it; and the mass difference is converted to energy. The fusion reaction requires enormous heat and very high pressures. These pressures, coupled with very high temperatures, can most easily be produced by exploding a fission bomb, which is the reason why it is often said that a fission bomb is the trigger for a fusion (hydrogen) bomb.

Interestingly enough, the fusion reaction was discovered first, though only on paper. For the period from 1910 to 1930, most physicists believed that the release of atomic energy, if it could be done, would be of no practical value. They asserted that causing the release would require more energy than could be obtained. Most astronomers, on the other hand, were convinced that atomic energy is released in the sun and the other stars because there was no other way to account for the energy the stars radiated into space. Trying to account for the energy radiated by the stars led to theoretical papers predicting what we now call the fusion reaction. At the time (1930), atomic fission was still unknown, it was discovered first by Fermi in 1934, and the process was repeated by Hahn and Strassmann in 1938. But nobody yet knew that the sudden bursts of energy observed in the experiments were due to the fission of the uranium 235 atom. This was established (by way of calculation) by Dr. Lise Meitner. Once it was known what happened, the way to a premediated release of atomic energy was clear.

But nobody could be quite certain whether the release would take the form of an explosion or whether it would be slow enough to be used to generate power. American scientists proceeded under the assumption, that the release would be sudden and violent (and the Alamogordo test proved them right), while Professor Heisenberg in Germany thought the slow

release to be more likely, which is the reason why the Germans did not start a largescale energy project. While fission can be controlled, thus allowing systematic use of fission for power generation (nuclear reactors), ways of controlling fusion are yet to be devised.

WORLD GAZETTEER

A BRIEF SURVEY OF THE COUNTRIES OF THE WORLD

AFGHANISTAN—A landlocked mountainous Moslem kingdom, lying between Pakistan, Iran and USSR. Towering above Kabul are the Hindukush mountains. There are no railways and navigable rivers. Rough mountains have prevented the building of rail-roads.

The Government was constitutional monarchy. The Cabinet comprised the Prime Minister, chosen by the King, the President of the National Assembly and Ministers. Afghanistan is divided into 29 provinces each under a Governor. On Sept. 20, 1964, a new constitution was approved by the Grand Assembly. A new Parliament, consisting of an elected Lower House (NATIONAL ASSEMBLY) with 216 members and partly-elected Upper House (SENATE) was opened on Oct. 14, 1965. The country was proclaimed a Republic on July 17, 1973 in a palace coup which overthrew the regime of King Zahir Shah ended the monarchy. Prime Minister Mohammed Daoud who led the coup proclaimed a republic with himself as President and Prime Minister. Pro-Soviet leftists took power in a bloody coup on 27 April, 1978 led by Col. Abdul Qader, President Daoud and 30 members of his family were executed. The rebels established a new Democratic Republic of Afghanistan and made Noor Mohammad Taraki President. In a bloody coup on 14 Sept., 1979 Prime Minister Hafizullah Amin took over the government, making himself president. Former President Taraki and 60 others were reported killed during the take over.

The predominant religion in the country is Islam. Agriculture and sheep-rearing are the main livelihood of the people. Afghanistan is rich in fruits. Chief items of export are cotton, wool, hides and skins, oil-seeds; etc. The country has substantial mineral resources of coal, gas and petroleum. Area: 2,53,861 sq.m. Population—21,635,800. Capital—KABUL. Currency—Afghani.

ALBANIA—a mountainous Balkan Communist republic in southern Europe bounded by Yugoslavia, Greece and the Adriatic Sea. Independent Albania was proclaimed in 1912, republic was formed in 1920. Self-styled King Zog I ruled 1925-39, until Italy invaded. Communist partisan, took over in 1944, allied Albania with USSR, then broke with USSR in 1960 over de-Stalinization. Strong political alliance with China followed. Under the 1945 Constitution, Albania has a typical Soviet-type Government. Supreme power is vested in the popularly elected National Assembly, to which the Cabinet, headed by the Premier, is responsible. The government closed 2,169 churches and mosques in 1967, proclaiming 'Albania the first atheist state in the world.'

The staple crops are wheat and maize. Forest reserves are considerable. It is predominantly agricultural nation and new industries are chemical fertilizer, textile, electric cable and power plants. Principle exports are cotton textiles, wood products and tobacco. Area: 11,100 sq.m. Population—3,219,380. Capital—TIRANA. Currency—LEK.

ALGERIA—an independent republic in northern Africa between Tunisia and Morocco, extending about 650 miles along the Mediterranean. It was annexed in Feb. 1842 and regarded as an integral part of France. It became independent on July 3, 1962 and a Republic in Sept. 1963, with Ahmed Ben Bella as President, who was deposed in a COUP DE GRACE, and a 26-man Council of the Revolution presided over by Col. Houari Boumedienne assumed power on June 19, 1965.

Cattle raising is the mainstay of the people. There are large deposits of iron, zinc, mercury, copper and antimony. Export consists chiefly of wine, skins, citrus fruits, dates, iron and zinc ores, manufactured tobacco products, barley and other cereals and vegetables. Algeria is one of the oil-producing nations of the world. Area: 919,595 sq.m. Population—21,233,000. Capital—Algiers. Currency—Dinar.

ANDORA—a small semi-independent republic on the Franco-Spanish border on the southern slopes of the Pyrenees, under the joint suzerainty of France and Spanish Catholic

Bishop of Urgel. It is governed by a Council-General of 24 elected members. Tourism is the main industry. It has an abundance of iron, lead, marble, granite, alum; stone and timber. AREA—180 sq.m. POPULATION—40,000. CAPITAL—Andorra La Vella. CURRENCY—Fr. Franc.

ANGOLA—stretches 1,000 miles along the Atlantic in south-west Africa, bordering Namibia, Zambia and Zaire. A 1961 insurrection against Portuguese rule continued until 1974, when the new regime in Portugal offered independence. Angola became independent on 11 Nov. 1975. Angola produces 5% of world's coffee. Other products are corn, sugar, palm, oil, cotton, wheat, tobacco, etc. Angola is an important exporter of iron and diamonds. AREA—481,354 sq.m. POPULATION—9,286,590. CAPITAL—Luanda. Currency—Kwanza.

ARGENTINA—the second largest and the second most populous South American republic. It is a federal union of 21 provinces, which elect their own governors and legislatures, one territory (TIERRA DEL FUEGO) and the federal district, BUENOS AIRES whose Mayor is appointed by the President. The constitution is modelled on that of USA, but each province enjoys a large measure of autonomy. The executive is in the hands of the President who selects his Cabinet, consisting of 5 members elected for a 6-year term by direct popular vote. The National Congress consists of a Senate of 46 members, elected for 9 years, and a Chamber of Deputies of 192 members, each elected for 4 years. It became a democratic republic on 25 May, 1973 after a period of seven years (June, 1966) of military rule. A military junta took over in 1976.

The mountains of Argentina contain deposits of coal, lead, zinc, iron ore, sulphur, silver, copper and gold. Argentina is a world leader in wheat, corn, flaxseed, alfalfa grown for feed to support huge heads of cattle is the main crop. It is the world's biggest source of tannin. Meat-processing is the chief industry. Argentina is pre-eminent in the production of beef, mutton and wool. AREA—1,072,067 sq.m. POPULATION—30,570,500. CAPITAL—Buenos Aires. CURRENCY—Peso. PORTS—Buenos Aires, Bahía Blanca, La Plata.

AUSTRALIA—the continent of Australia, a huge island, is situated in S. E. of Asia proper and below the islands of Indonesia. The tropic of Capricorn bisects Australia. Australia is the home of Kangaroos.

The country has been settled since 1788. The Commonwealth proclaimed on January 1, 1901, is a self-governing member of the Commonwealth of Nations, comprising a federation of six States and two territories. The executive power is vested in the Sovereign (though the Governor-General) assisted by a Federal Ministry of 26 Ministers of State headed by the Prime Minister. Parliament consists of the Senate and the House of Representatives.

Wool is Australia's greatest primary industry. It is also one of the world's largest wheat producers. Other important products include sugar, wine, fruits, vegetables, grains, meat, minerals like gold, uranium, silver, coal, copper, bauxite, lead, iron and petroleum products. Chief items of export are butter, eggs, cheese, milk, and cream meat. AREA—2,965,368 sq.m. POPULATION—16,127,500. CAPITAL—Canberra. Currency—Dollar. Ports—Sydney, Melbourne, New Castle, Port Kemble, Fremantle, Geelong.

AUSTRIA—a mountainous republic of Central Europe, abundant in forests and dotted with lakes. After 17 years of occupation between the two World Wars, Austria regained her independence by a treaty on May 15, 1955. It is composed of 9 provinces including Vienna. The president is elected directly by the people for a 6-year term. He appoints the Chancellor and approves the Ministers. The bicameral legislature consists of the BUNDES-RAT, with 50 members chosen by the provincial assemblies and the Nationalrat, with 165 members popularly elected.

The country is primarily industrial. Raw magnesite, nitrogenous fertilizers, paper and chemical pulp are produced in large quantity. In addition motorcycles and cars, scooters, lorries and tractors are manufactured. Austria is an important source of high grade graphite. There are also large iron ore and oil deposits and useful deposits of brown coal, magnesite salt and lead, in the country. Although farmland is limited, Austria produces about 85 p.c. of its foodstuff. It grows wheat, rye, barley, oat, corn, potatoes, sugar beets; principal livestock being cattle, sheep and pigs. About 38 p.c. of the total land are being forested; timber forms a valuable source of the country's indigenous wealth. Principal exports are paper, chemicals, aluminium, iron and steel, textiles, metal products, machinery and vehicles. Tourism is a large

source of foreign funds. Area—32,374 sq.m. Population—7,510,000. Capital—Vienna. Currency—Shilling.

BAHAMAS—The Bahamas became a crown colony of Britain in 1717. It achieved full independence from Great Britain on July 10, 1973. The Bahamas comprise nearly 700 islands (30 inhabited) and over 2,000 islets in the Western Atlantic. There is a 38-member elected Assembly. The 16-member Senate is appointed by the Governor-General on the advice of the Prime Minister. AREA—5,380 sq.m. POPULATION—240,375. Capital—NASSAU. Currency—DOLLAR. Ports—Nassau, Freeport.

BAHRAIN—consists of group of low-lying islands on the Persian Gulf, about 20 miles of the east coast of Arabia. It was an Arab sheikhdom under British protection from 1861. This British protected Persian Gulf State declared its independence on August 14, 1971. The islands are important for their oil, pearl, fisheries and strategic position. AREA—240 sq.m. Population—280,210. Capital—MANAMA. Currency—DINAR. Port—Sitara.

BANGLADESH—East Bengal became part of Pakistan in 1947. Changing West Pakistani domination the Awami League, based in the East, won national Assembly control in 1971. Assembly sessions were postponed, riots broke out. Pakistani troops attacked on March 25; Bangladesh independence was proclaimed the next day. In the ensuing civil war, one million died amid charges of Pakistani atrocities. Ten million fled to India. War between India and Pakistan broke out on Dec. 3, 1971. Pakistani surrendered in the East on Dec. 15. Sheikh Mujibur Rahman became Prime Minister. In 1974, the government took emergency power, Mujibur was assassinated on 14 August, 1975 and a series of coups followed. A new regime in 1977 restored Islam on a central Constitutional role. President Ziaur Rahman was assassinated on 30 May, 1981. Lt. General Ershad took over the powers from the elected president Abdus Sattar, who was elected on 15 Nov. 1981, in March, 1982 invoking martial law. A low lying flat country, surrounded by India, Burma, and the Bay of Bengal, is rich in jute, rice and tea. Bangladesh produces, about 89 p.c. of the world's raw jute. AREA—55,126 sq. m. POPULATION—99,844,000. Capital—DACCA. Currency—TAKA. Ports—Chittagong, Chalna.

BARBADOS—the smallest nation in the Western Hemisphere, it became independent within the Commonwealth on Nov. 30, 1966 after 339 years of British rule. It is the most easterly of the West Indie islands on the Atlantic, almost completely surrounded by coral reefs. Most of the islands are Negroes.

Sugar dominates the economy of Barbados and accounts for 80 p.c. of exports; other exports are edible oils, molasses, rum, lard and margarine. Tourism business is booming. AREA—166 sq. m. POPULATION—2,60,000. Capital—BRIDGETOWN. Currency—DOLLAR. Port—Bridgetown.

BELGIUM—a kingdom of North West Europe. The Government is a constitutional, representative and hereditary monarchy with a bicameral legislature constituting the King, the Senate and the Chamber of Representatives. The members of the Chamber are elected directly by the electoral body for 4 years. Belgium is the most densely populated country in Europe. Coal is the country's only important mineral. Although Belgium is essentially a manufacturing country, agriculture and forestry are also profitable industries. The main crops are oats, rye, wheat, potatoes, barely and sugar beets. ANTWERP is the world's 4th largest port and also the world's biggest diamond-trading centre. Principal industries are coal, steel and metal products textiles, glass, nitrogen, sugar, heavy chemicals, etc. AREA—11,781 sq. m. POPULATION—10,004,000. Capital—BRUSSELS. Currency—FRANC. Ports—Antwerp, Zeterbrugge, Ghent.

BENIN—A former Overseas French Territory in West Africa, Benin became an independent republic within the French Community on Dec. 4, 1958: full independence outside the Community was proclaimed on Aug. 1, 1960. Its previous name was Dahomey. The principal exports are palm products. Principal products are palm oil, kernels, nuts, peanuts, cotton, kapok, coffee, tobacco. Small industries are bicycle plant, cotton mill, peanut oil plant. Oil has been discovered. AREA—43,383 sq. m. POPULATION—3,512,630. Capital—PORTO NOVO and COTONOU. Currency—CFA FRANC. Port—Cotonou.

BHUTAN—secluded on the southern flank of the eastern Himalayas the Buddhist Kingdom of Bhutan is a constitutional monarchy. The ruler has given his subjects the right to dismiss him. Though fully independent, Bhutan by a treaty of 1949 agreed to be guided by the Government of India in regard to external relations. Bhutan is a thinly populated country. Most

Bhutanese live as farmers on their own land. AREA—19,305 sq.m. POPULATION—1,232,000. Capital—THIMPHU, Currency—NGULTRUM.

BOLIVIA—A Southern American republic, lying across the Andes, Bolivia has been under military rule since Nov. 1964, when a Military JUNTA headed by the former Vice-President and the former C-in-C of the armed forces replaced by force the National Revolutionary Movement. A series of coups and counter coups continued until 1978. The promised restoration of civilian government through fair elections was achieved in 1979. The Congress consists of a Senate of 27 and a Chamber of Deputies of 102.

Agriculture products consist chiefly rice, wheat, barley, oats, sugarcane, maize, cotton, rubber, potatoes, bananas, corn, coffee, coca etc. The most important industry is mining. Bolivia ranks behind Malaya in tin output. Tin ore constitutes about 70 p.c. of Bolivia's exports. There are also deposits of silver, copper, lead, zinc, petroleum, antimony, tungsten, gold, iron, asbestos, salt, sulphur and natural gas. AREA—424,162 sq. m. POPULATION—6,472,080. Bolivia has two capitals. LA PEZ is the actual capital and seat of the government, but SUCRE is the legal capital and the seat of the judiciary. Currency—PESO.

BOTSWANA—formerly the British protectorate of Bechuanaland this Republic is located in the centre of southern Africa. It is vast table-land; much of it is sand-veld. The Kalahari Desert spreads over the south-western region. The land is mainly suitable for cattle raising and beef is the main export. The country attained freedom on Sept. 29, 1966 after being under 81 years of British protection. The legislative power of the Republic is vested in a parliament consisting of the President and the national Assembly with 36 elected members. AREA—2,31,805 sq. m. POPULATION—7,78,000. Capital—GABORONE. Currency—PULA.

BRAZIL—the largest State in South America both in area and in population. Since its discovery by a Portuguese navigator in 1500, Brazil was a colony of Portugal till March 1808, when it became a kingdom under a fleeing Portuguese prince. On Nov. 15, 1889 a revolution dethroned the second emperor and established a republic.

Brazil is a federal of 22 States, with limited autonomy, a federal district, and 4 federal territories.

The President is elected for 5 years. There is a bicameral legislature, senators being elected for 8 years and Deputies (Representatives) for 4 years. It has a Senate of 67 members and Chamber of Deputies of 479 members.

Brazil leads their world in the production of coffee and castor beans and ranks second in cocoa, sugar and oranges. The coffee crop represents three quarters of the world's supply. There is enormous deposits of iron ore, manganese, chrome, nickel, tungsten, lead, gold, sheet mica, bauxite and monazite. Cotton weaving is the most important manufacturing industry. Its civil aviation industry is one of the largest in the world. AREA—3,286,470 sq. m. POPULATION—135,975,000. Capital—BRASILIA. Currency—CRUZEIRO. Ports—Santos, Rio de Janeiro, Vitoria, Salvador, Rio Grande, Recife.

BRUNEI—had been since 1888 a protected sultanate on the north-west coast of the island of Borneo, between Sarawak and British North Borneo. An agreement between Britain and the Sultan in April, 1959, provided for administration separate from the Sarawak, a written constitution, promulgated on September 29, 1959, and greater internal autonomy. Brunei is second to Canada in oil production in the Commonwealth. Brunei withdrew from the Federation of Malaysia after its Sultan protected that his title seniority and precedence had not been given proper recognition. It has a legislative Council of 21 members. AREA—2,226 sq.m. POPULATION—219,247. Capital—BRUNEI.

BULGARIA—a republic of North Europe, proclaimed in Sep. 1946, when in a one-ticket plebiscite, monarchy was abolished. The constitution of 1947 provides that the unicameral National Assembly SUBRANIE is the supreme organ of the Government. The Assembly is elected for 4-year term and chooses the presidium headed by a Chairman and the Premier. The national Assembly has 400 members.

Agriculture claims a large percentage of the population. The principal crops are wheat, maize, rye, barley, oats, corn, potatoes and tobacco. There are mineral deposits of varying importance. Industries include machine tools, agricultural machinery, cranes, electric trucks and motors, etc. AREA—42,823 sq. m. POPULATION—8,810,000. Capital—SOFIA. Currency—LEV. Ports—Burgas, Varna.

BURMA—The Union of Burma, bounded on the north and east by China, south by the Bay of Bengal and west by India, became an independent republic completely outside the British Commonwealth by a treaty effective from Jan. 4, 1958. The republican government was overthrown following a military coup on March 2, 1962. Parliament and State councils were dissolved, and a Revolutionary Council headed by a Chairman was set up.

Burma has great mineral wealth including petroleum, lead, silver, tin, tungsten, zinc, and gemstones. Three-quarters of the population depend on agriculture. Rice is the economic mainstay for Burma and accounts for 70 p.c. of the export value. Other chief products are cotton, wheat, millet, tobacco, oilseeds, grain, teakwood, etc. AREA—261,789 sq. m. POPULATION—33,210,000. Capital—RANGOON. Currency—KYAT. Ports—Rangoon, Sittwe, Bassein, Moulmein, Tavoy.

BURUNDI—The Republic of Burundi, formerly a part of the Belgium U.N. Trusteeship of Rwanda-Urundi, became independent on July 1, 1962. It lies on the east side of Lake Tanganyika in East Central Africa. Grass lands and mountains cover most of the country area.

Burundi was an independent constitutional monarchy. But a COUP D'ETAT on Nov. 12, 1966, headed by the then premier, deposed the King and abolished the Constitution and the Parliament. Now the country is ruled by a President through the National Revolutionary Council. There are 8 provinces, each under a Governor. The economy is agricultural. The chief crop and export item is coffee. AREA—10,730 s.m. POPULATION—4,208,000. Capital—BUJUMBURA. Currency—Burundi Franc.

CAMEROON—a federal republic on the western coast of Africa. It was German colony from 1884 to 1916. Then it came under League of Nations (now U.N.) Trusteeship and was being administered in two parts by Britain and France respectively. France offered full internal autonomy to the area administered by her on Jan. 1, 1959, and the U.N. terminated the Trusteeship on Jan. 1, 1960 when the French Cameroon became fully independent as the Republic of Cameroon. Following a referendum by the U.N. in former British Cameroon, it joined the Republic on Oct. 1, 1961 to form the Federal Republic of Cameroon. The Federal Government consist of a President, Vice-President and 9 Federal Ministers. The Federal Assembly comprises 120 members.

The country is mainly agricultural. Principal products are cocoa, coffee, bananas, cotton, timber, leather, tea, rubber, groundnuts, palm products. Aluminium processing is the most important manufacturing industry. AREA—183,568 sq. m. POPULATION—9,667,840. Capital—YAOUNDE. Currency—CFA FRANC. Port—DOUALA.

CANADA—In 1763 the whole territory of Canada became a possession of Great Britain. The Constitution of Canada has its source in the British North America Act of 1867 which formed a Dominion under the name of Canada. Under this Act Canada came into being on July 1, 1867 (Dominion Day) and under the Statute of Westminster, which received the royal assent on Dec. 11, 1931, Canada and the provinces were exempted from the separation of the Colonial Laws Validity Act. Now it is an independent and sovereign member of the Commonwealth, with the second largest continuous land area in the world, stretching across the northern part of the North American continent 5,780 miles from the Atlantic to the Pacific. It is a federation of 10 provinces. The executive powers rest nominally in the hands of the Governor-General who represents the Crown and is appointed by Sovereign on the advice of the Prime Minister and aided by the Privy Council. The Parliament consists of a Senate of 102 members, nominated for life by Governor-General, and a House of Commons of 282 members, elected by suffrage for 5 years.

Agriculture is the most important primary industry. Wheat is the principal crop and item of export. Canada also exports newsprint, wood, woodpulp, fish and fishery products, fur, copper ore, nickel ore, automobiles and spare parts, aluminium. It is the largest exporter of non-ferrous base metals and leads in the production of asbestos, nickel and zinc. It ranks second in uranium, gold and gypsum; third in silver, aluminium, cobalt, titanium and platinum group; fourth in lead; fifth in copper and iron. Of special interest is the uranium ore mined in the northern Canada, one of the only two places so far known in the world where raw materials for atomic energy can be mined easily. Canadian fishing is the most extensive and prolific in the world. The 5,000-mile Trans-Canada Highway connecting all 10 provinces is the world's longest national highway. AREA—3,851,809 sq. m. POPULATION—24,320,000. Capital—OTTAWA. Currency—CANADIAN DOLLAR.

CAPE VERDE ISLANDS—15 in number, lie in the North-Atlantic Ocean, 280 miles west of Dakar, Africa. These islands were discovered by the Portuguese in 1460. After over 500 years of Portuguese rule the Cape Verde became independent on July 5, 1975. AREA—1,557 sq.m. POPULATION—320,000. Capital—PRALA, Currency—ESCUDO. Ports—Mindelo, Paraia.

CENTRAL AFRICA—Formerly the French colony of Ubanghi-Shari in Equatorial Africa, this Republic lies between the Cameroon Republic and southern Sudan. On Dec. 1, 1958, Ubanghi-Shari elected to remain within the French Community and adopted this title. It became fully independent on August 13, 1960. President Bokassa renamed the country the Central African Empire on 4 Dec., 1976 and crowned himself as emperor. Former President Dacko who was ousted by Bokassa on 1 Jan., 1966, overthrew the emperor on 20 Sept. 1979, reestablishing a Republic with himself as President. Cotton, coffee and peanuts are the main products. AREA—241,313 sq. m. POPULATION—2,610,000. Capital—BANGUI. Currency—CFA FRANC.

CHAD REPUBLIC—a former French Overseas Territory in Equatorial Africa having a part of the Sahara in the north, it proclaimed independence from France on August, 11, 1960. It is a member of the French Community. A new Constitution was adopted for a Presidential-type regime on April 14, 1962. Cotton is the main export, others are meat, hides, fish, and cattle. AREA—495,752 sq. m. POPULATION—5,179,950. Capital—N'DJAMENA. Currency—CFA FRANC.

CHILE—a South American republic along the Pacific coast, it is divided into 25 provinces. Agriculture and mining are the main occupation of the people. Fruits flourish in the central zone and form an important export item. Excellent wines are produced and exported. There is extensive cultivation of wheat, maize, hemp, tobacco, chilli-pepper, barley, oats, beans, peas, potatoes, onions and melons. In Chile the only natural nitrate in the world is found. About 47 p.c. of the world's iodine is obtained here as a by-product in nitrate processing. Chile is the world's third largest copper producer and has also large deposits of high-grade sulphur, mostly around towering extinct volcanoes in the Andes. There are also enormous deposits of iron in some provinces as well as reserves of coal.

The elected government was overthrown by a military junta in 1973. AREA—292,396 sq. m. POPULATION—11,660,000. Capital—SANTIAGO. Currency—PESO, Ports—Valparaiso, Arica, Antofagasta.

CHINA—Peoples Republic of China which controls the entire mainland, was proclaimed on Sept. 21, 1949 after the defeat of the Nationalist Army, under Gen. Chiang Kai-shek. The Communists set up a Soviet-type Government. The constitution of the People's Republic adopted by the National People's Congress in Sept. 1954, established the Congress as the highest organ of State power. Executive power is vested in the President elected for a 4-year term by the Congress. He appoints the Premier and his Cabinet. The Cabinet is the highest administrative organ. Effective control is exercised by the Central Committee of the Chinese Communist Party. Very recently People's Republic of China lost two of her founding fathers—Mao Tse Tung and Chou-en-lai. Formosa, Macao & Hongkong, though parts of China, are yet to be integrated with Red regime. While Formosa is still ruled by a Kuomintang Government, the other two are under formal foreign control.

China is essentially an agricultural country, constituting about 80 p.c. of the population. Rice is the staple food. Wheat, barley, millet, tobacco, sugarcane, cotton, tea, hemp, jute and flax are the most important crops. The most important timber product is teak. China is one of the foremost coal producing countries in the world. Other minerals include iron ore, tin, antimony, petroleum, tungsten, salt. AREA—36,91,502 sq. m. Population—1,041,116,400. Capital—BEIJING. Currency—YUAN. Ports—SANGHAI, TIENTSIN, DAIREN.

COLOMBIA—a South American republic in the extreme north-west of South America having a coast-line on both the Atlantic and the Pacific. The three great ranges of the Andes cut the country from north to south. Legislative power rests with a Congress, consisting of a Senate of 114 members and a House of Representatives of 199 members, both elected for a 4-year term. The President is elected by direct vote for 4 years.

Colombia is the second largest exporter of coffee, rice, tobacco, cotton, cocoa, wheat, maize, sugarcane, and bananas are cultivated. Food processing and tanning are important industries. The country is rich in minerals and is a heavy producer of petroleum. Colombia

produces 95 p.c. of the world's gem emeralds. Other minerals are gold, silver, copper, lead, mercury, manganese, platinum, coal, iron, limestone; salt. AREA—455,355 sq.m. POPULATION—29,050,000. CAPITAL—Bogota. Currency—PESO. Ports—BUENAVENTURA, SANTA MARTA, BARANGUILLA, CARTAGENA.

COMOROS—are volcanic archipelago in the Mozambique Channel. The islands were controlled by the Moslem Sultans until the French acquired them in 1841-1909. They were ruled as part of Madagascar in 1912-47, and became an autonomous French overseas territory in 1961. The Comoros Chamber of Deputies unilaterally declared the country's independence on July, 1975. AREA—693 sq.m. POPULATION—370,000. CAPITAL—Moroni. Currency—CFA FRANC. Port—DZAOUZLI.

CONGO, PEOPLES REPUBLIC OF—lies on the Equator to the west of the Zaire, with a short Atlantic Coast. Formerly the French Middle Congo Overseas Territory, it achieved independence on August 15, 1960. It is a member of the French Community. The chief commercial agricultural products are palm oil, kernels, cocoa, bananas and peanuts. Forest are prime resource of the country and wood products form a major export. The country has extensive petroleum reserves. AREA—132,046 sq. m. POPULATION—1,521,000. Capital—BRAZZAVILLE. Currency—CFA FRANC. Ports—POINTER-MAIRE, BRAZZAVILLE.

COSTA RICA—an independent republic since 1821 in the southern most part of Central America between Nicaragua and Panama. From 1824-39, it was a part of the Confederation of Central America. Under the present constitution, modified on Nov. 8, 1949 the legislative power is vested in a Chamber of Deputies of 57, with a 4-year term. The President elected for 4-year appoints a Cabinet of 9. Agriculture is the main industry. Coffee and bananas are the chief crops, followed by sugar. Minerals include gold, silver, quartz, alabaster, granite, oil slope. AREA—19653 sq. m. POPULATION—2,223,000 Capital—SAN JOSE. Currency—COLONES. Ports—LIMON, PUNTARENAS.

CUBA—an independent Central American State and the largest island in the West Indies. It is the second largest cane-sugar producer in the world. Tobacco ranks second in importance. Cuba has extensive forests containing valuable cabinet woods, dye-woods, fibres, gums, resins and oils. Iron ore abounds. A revolution, led by Dr. Fidel Castro overthrew the Government of Dictator Batista on Jan. 1959. The constitution was suspended and a Provisional Government with a President was set up. The country is now ruled by a Fundamental Law approved on Feb. 8, 1959 based on the 1940 constitution with modifications for rule by a DEFACTO Government. AREA—44,218 sq.m. POPULATION—9,460,000. Capital—HAVANA. Currency—PESO. Ports—HAVANA, MATANZAS, CIENFUEGOS, SANTIAGO DE CUBA.

CYPRUS—an island in the extreme north-east corner of the Mediterranean Sea. Cyprus was formally annexed to Great Britain on Nov. 5, 1914. Between 1925-60 it was a Crown colony. It became a republic on August 16, 1960 and was elected to the British Commonwealth of Nations on March 13, 1961. The Constitution provides for a Greek Cypriot President and a Turkish Cypriot Vice-President each elected for a 5-year term by the Greek and Turkish communities, respectively and a Council of Ministers (7 Greek and 3 Turkish) designated by the President and a House of Representatives, elected for five years and consisting of 35 Greek and 15 Turkish members. Turkish Cypriots voted overwhelmingly on June 8, 1975 to form a separate Turkish Cypriot federated state. A president and assembly were elected in 1976. Chief agricultural products are cereals, potatoes, carrots, citrus and other dried foods, tobacco etc. Mining is an important industry. AREA—3,572 sq. m. POPULATION—620,000. Capital—NICOSIA. Currency—POUND. Ports—FAMAGUSTA, LIMASSAL.

CZECHOSLOVAKIA—a Communist republic of Central Europe, formed in Oct. 1918 as one of the successor States of the Austro-Hungarian Empire; it then comprised Bohemia, Moravia with Austria, Silesia, Slovakia and Ruthenia. Ruthenia was, however, ceded to Russia by a treaty on June 29, 1945. In 1948, after the establishment of the Peoples Republic the old provinces were abolished and the country was divided into 19 administrative units called 'regions'. Another Constitution, announced on July 11, 1960, replaced that of 1948 and recognised the nation into a highly centralised State. In January 1968 a liberalization movement spread explosively through out Czechoslovakia. In July 1968 the USSR and 4 hard-core Warsaw Pact nations demanded an end to liberalization. On August 20, Russian, Polish, East Germans, Hungarian and Bulgarian military forces invaded Czechoslovakia. Some Soviet troops

remained and Soviet pressure in late 1968 brought agreements from officials that the liberal policies would be "normalized." This was followed by mass demonstrations, riots by students and workers, press censorship, etc. On January 2, 1969, Czechoslovakia became a federal state. In addition to a Federal President, Premier and Assembly for the Czechoslovak Socialist Republic, there were separate Government, a Czech Socialist Republic and a Slovak Socialist Republic, each with a National Council, a Premier and Cabinet.

The country's natural resources, developed farming, mining and industry are great. Minerals include coal, iron, graphite, silver, copper, lead, rocksalt, aluminium and uranium. All trade and industries have been nationalised and incorporated on State or municipal organisations. AREA—49,371 sq.m. POPULATION—15,295,000. Capital—PRAGUE (Praha). Currency—KORUNA.

DENMARK—The oldest kingdom of Europe, is a constitutional monarchy. The king and the unicameral Parliament jointly hold legislative power (Folketing) of 179 members. The country is divided into 25 counties, each administered by a governor appointed by the king.

Agriculture is all-out important to the Danish economy. Farm produce (butter, bacon, cheese, eggs) constitute Denmark's most important export articles. Industry and handicrafts employ more workers than agriculture. Denmark substantially export various machinery, ships, textiles, furniture, iron and steel goods, manufactured consumer's goods etc. Its foreign trade per head of population is the largest in the world. Greenland, world's largest island is a part of Denmark. AREA—17,028 sq.m. POPULATION—5,090,000. Capital—COPENHAGEN. Currency—KRONER. Ports—COPENHAGEN, ALBORG, ARTHUS, ODENSE.

DJIBOUTI—Previously a French territory, North-east of Africa, formerly French Somaliland (renamed Afars and Issas in 1967) achieved independence on June 27, 1977. It took the new name Republic of Djibouti after independence. Hot, dry climate. The country's natural resources are salt, coffee hides, oilseeds. Area—8900 sq.m. POPULATION (est)—2,77,000. Capital—DJIBOUTI. Port—DJIBOUTI.

DOMINICA—A British colony since 1805, it was granted self-government in 1967. Independence was achieved on Nov. 1978. AREA—290 sq.m. POPULATION—83,000. Capital—ROSEAU.

DOMINICAN REPUBLIC—a Central American State, occupying the eastern portion of the Hispaniola, east of Cuba between the Atlantic ocean and the Caribbean Sea. Agriculture is the main source of wealth. Sugar, coffee, cocoa and tobacco are the most important crops for export. Gold and copper are the principal among the various minerals found. Area—18,704 sq.m. POPULATION—5,347,000. Capital—SANTO DOMINGO. Currency—PESO. Ports—SANTO DOMINGO, SAN PEDRO DE MACORIS, PUERTO PLATA.

ECUADOR—a republic on the northern Pacific coast of south America. The country won independence from Spanish rule in May 24, 1822 and became a republic in May, 1830. The Constitution of 1946 was suspended following, a military coup on July 11, 1963. President is elected for a 4-year term. The Congress consists of a Chamber of Deputies, elected for 2-year by provinces, and a Senate elected for 4-years.

Ecuador is the world's chief source of the supply of Balsa, a light wood. It exports more bananas than any other country. Other staple export products are cocoa and coffee. The so-called Panama hats are manufactured in Ecuador. AREA—109,685 sq. m. POPULATION—7,856,845. Capital—QUITO. Currency—SUCRE. Ports—GUAYAQUIL, MANTA, ES-MERALDAS.

EGYPT—The history of Egypt dates back to about 4,000 B.C. when the kingdom of upper and lower Egypt, already highly civilized, were united. Egypt, itself a republic since 1953, occupies the north-east corner of Africa on the Mediterranean Sea. When the republic was proclaimed on June 18, 1953, Naguib became the first President and Premier. But Lt. Col. Gamel Abdel Nasser ousted Naguib and became Premier on April 18, 1954. On June 23, 1956 voters elected Nasser President. The United Arab Republic came into being on Feb. 1, 1958, when a Union of Egypt and Syria was confirmed by a plebiscite. Yemen joined the Federation later on. As a result of a COUP D'ETAT in Syria on Sept. 28, 1961. Syria seceded from the Union. On Sept. 1, 1971 Egypt dropped the name "United Arab Republic" and declared that henceforth she would be known as the Egyptian Arab Republic. The Constitution proclaimed Egypt to be an Arab State under a republic and democratic form of government. The Presi-

dent has the right to propose or veto legislation ; he is assisted by 4-Vice-Presidents and a Cabinet.

Principal exports are cotton and rice. A variety of minerals is found. AREA—386,872 sq.m. POPULATION—47,684,160. Capital—CAIRO. Currency—POUND. Ports—ALEXANDRIA, PORT SAID, SUEZ.

EL SALVADOR—is the smallest of the six Central American republic and the only one without an Atlantic coast. The Constitution of Jan. 1962, provides for unicameral legislature, the National Assembly of Deputies of 52 elected by popular vote for a 2-year term. Executive power is vested in the President, elected for a 5-year term. The President is assisted by a Council of Ministers nominated by him. The coffee plantations on the mountain slopes are the country's economic mainstay. AREA—8,260 sq.m. POPULATION—4,534,000. Capital—SAN SALVADOR. Currency—COLONES, Ports—LA UNION, ACAJUTLA.

EQUATORIAL GUINEA—Formerly Spanish Guinea, it consists of Rio Muni (10,045 sq.m.), on the North Coast of Africa and several islands of which the largest is Fernando P.O. (785 sq.m.). Equatorial Guinea achieved independence on Oct. 12, 1968. Its agricultural products are cocoa, coffee, palm carnels and oil and timber. AREA—10,832 sq.m. POPULATION—336,000. Capital—MALABO. Currency—EKPWELE. Ports—MALABO, BATA.

ETHIOPIA—a republic in North-East Africa. The last Emperor of Ethiopia, Haile Selassie I, 225 consecutive Solomonic ruler, established a parliament and judiciary system in 1931 and promulgated a new constitution in 1955 but barred all political parties. The Emperor was dethroned by the armed forces on Sept. 12, 1974. The monarchy was abolished on March 21, 1975.

The country is mainly mountainous, volcanic in origin, 90 per cent of the population depend on agriculture. Principal crops are wheat, barley, millet, tobacco and sugar. Coffee of a high quality is the chief earner of country's foreign exchange. Industries included food processing, cement, shoes and textiles. AREA—471,778 sq.m. POPULATION—30,618,900. CAPITAL—Addis Ababa. Currency—BIRR. Ports—MESEWA, ASEB.

FIJI—Fiji consists of more than 500 islands, situated in the South Pacific Ocean, about two thousand miles from Sydney, Australia. Its two largest islands are Viti Levu (4,109 sq.m.) and Venna Levu (2,242 sq.m.). Capital Suva is situated in Viti Levu. Britain granted Fiji independence on Oct. 10, 1970. AREA—7,055 sq.m. POPULATION—629,000. Capital—SUVA. Currency—DOLLAR. Port—SUVA, LAUTOKA.

FINLAND—a republic in North-Western Europe, fringed by islands, and dotted with lakes. An autonomous Russian State since 1809, it became independent on Dec. 6, 1917 and a republic on July 7, 1919. Parliament consists of a single Chamber, the EDUSTRUNTA of 200 members, elected for a 4-year term. The voting system is designed for proportional representation. the legislative power is vested in the Parliament and the President, elected for 6 years.

70 p.c. of the total land area is forested. As such, one of the main occupations of the people is lumbering. Timber, pulp and paper industries employ large percentage of the working population and are the chief foreign exchange earners, followed by metal engineering industries. AREA—130,119 sq.m. POPULATION—4,784,000. CAPITAL—Helsinki. Currency—MARKKAA. Ports—HELSINKI, TURKU.

FRANCE—a republic of western Europe. The monarchical system was overthrown by the French Revolution (1789-93) and succeeded by FIRST EMPIRE UNDER NAPOLEON (1804-14), MONARCHY (1814-48), the SECOND REPUBLIC (1848-52), the SECOND EMPIRE (1852-70), the THIRD REPUBLIC (1871-1946), the FOURTH REPUBLIC (1946-58), the FIFTH REPUBLIC and FRENCH COMMUNITY (1958).

General Charles de Gaulle became Premier on June 1, 1958 after a crisis threatening civil war, followed by the resignation of the shortlived Cabinets and a conflict with Tunisia over the Algeria rebellion. General de Gaulle's proposed reforms were accepted by the Council of Ministers and were also approved by the voters by an overwhelming majority. The new Constitution establishing the FIFTH REPUBLIC, provides for a strong executive branch headed by the President and a legislature composed of a National Assembly and a Senate. The President is elected for 7 years by an Electoral College appointed by the Premier and may dissolve the Assembly and call for new elections ; he may also call for referendums on specific issues and may assume full powers in a national emergency. An absolute majority vote of the Assembly

is required to overthrow a Government. The President is assisted by an Executive Council comprising the Premier, heads of States and certain Cabinet Ministers. Parliament consists of the National Assembly and the Senate. In June 1960, the Constitution was amended to allow member States that became sovereign but remained within the Community, creating in effect a Commonwealth. The French COMMUNITY ESTABLISHED under 1958 Constitution of the FIFTH REPUBLIC replaces the French Union. It consists of Departments of Metropolitan France, Overseas Departments, Overseas Territories and Republics.

France is one of the most developed nations in the world. It has all the modern industries. Forestry is an important industry. Wine is cultivated to a great extent. The chief agricultural products are wheat, barley, maize, oats, potatoes, beet-roots, various fruits etc. The country is rich in deposit in the central region are amongst the most extensive in the world. AREA—212,973 sq.m. POPULATION—54,080,253. Capital—PARIS. Currency—FRANC. Ports—MARSEILLE, LE HAVRE, NANTES, BORDEAUX, ROUEN.

GABON—a republic on the Atlantic coast of Equatorial Africa. It proclaimed complete independence from France on August 17, 1960. It is now a member of the French Community. Main agricultural crops are cocoa, coffee, rice, peanuts, palm products and bananas. AREA—103,347 sq.m. POPULATION—546,000. Capital—LIBREVILLE. Currency—CFA FRANC. Ports—LIBREVILLE, GEUTIL.

GAMBIA—is the smallest nation in Africa both in population and in area, consisting of a 300-mile strip of land along the Gambia river. It is completely surrounded by Senegal except for a small Atlantic coastline. Administered as a dependency of Sierra Leone in 1822. Gambia was given its own colonial administration in 1843 and became a Crown Colony in 1888. It became independent within the Commonwealth on Feb. 17, 1965. On 24th April, 1970 it became a Republic within the Commonwealth. Parliament consists of 32 elected members, 4 elected Head Chiefs, 2 nominated members and the Attorney-General.

Groundnut is the most important cash crop which dominates the Gambia's economy and accounts for over 90 p.c. of the country's exports; other products include rice, millet, cattle, hides and dried fish. There are virtually no manufacturing industries except groundnut-processing. AREA—4,367 sq.m. POPULATION—568,000. Capital—BANJUL. Currency—DALASI. Port—BANJUL.

GERMANY—As a consequence of unconditional surrender on May 8, 1945, the Government of the United States, the Soviet Union, Great Britain and France assumed full executive power in Germany. Germany was divided into four zones of occupation under France, British, US and Soviet Control. The four occupying powers pledged themselves to treat Germany as an economic entity and to safeguard parallel political developments in the four zones towards restoration of truly democratic institutions. But the efforts to unify Germany were totally unsuccessful and the Western Powers were unable to agree with USSR on any fundamental issues. So the FEDERAL REPUBLIC OF GERMANY was formed on the initiative of the three western occupying powers.

The FEDERAL REPUBLIC OF GERMANY (WEST GERMANY) came into formal existence on September 1, 1949 when Allied High Commission transferred to it the administration of the US, British and French zones of occupation of Germany. On May 23, 1949, the German Constituent Assembly at Bonn enacted the Constitution for West Germany. By the Constitution the Republic was given full legislative, executive and judicial powers, but not in respect of such matters as armaments, reparations, decartelization, foreign affairs, the admission of refugees and other matters. Under the London and Paris Agreements, ratified by the three occupying powers on 5th May, 1955 the Republic attained full sovereignty and independence, though the occupying forces were given permission to remain within German territory.

At the head of the Republic is the FEDERAL PRESIDENT, elected for a 5-year term by a specially convened body, the Federal Convention. On proposal of the President, Federal Chancellor is elected by majority vote of the Bundestag (Lower House of the Parliament). Federal Ministers are nominated by the President at the instance of the Chancellor.

West Germany leads Western Europe as a steel producer. Ship-yards annually produce more than 1,00,000 gross registered tons of shipping, more than half of it export. The oil industry has a refining capacity of more than half of it for export. The oil industry has a refining capacity of more powerful member of the Europe Common Market. AREA—98,815 sq.m.

POPULATION—61,400,000. Capital—BONN. Currency—MARK. Ports—HAMBURG, BREMEN, LUBECK.

THE GERMAN DEMOCRATIC REPUBLIC (EAST GERMANY) comprises Soviet zone of occupation of East Germany and was proclaimed on Oct. 7, 1949 with its seat at Berlin on the basis of a Constitution adopted on May 30, 1949 by a People's Congress. The Constitution is Soviet in nature. Under a treaty between the German Democratic Republic and the USSR in 1955, the Republic became a Sovereign State and was given complete freedom to decide all questions concerning its internal and foreign policy. Parliament approved a constitutional amendment on September 12, 1960 that abolished the Presidency, replacing it with a new Council of State designated as East Germany's highest governing body with a Chairman. AREA—40,646 sq.m. POPULATION—16,770,000. Capital—EAST BERLIN. Currency—MARK. Ports—ROSTOCK, WISMAR, SATRALSOUND.

GHANA—A former British Gold Coast Colony, it became independent within the British Commonwealth on March 6, 1957. It became a republic within the Commonwealth on July 1, 1960 under the Presidency of Kwame Nkrumah. Parliament voted on September 7, 1962 to extend President Dr. Kwame Nkrumah's term to cover his life-time. Apparently it seemed that there was no political agitation or grievance against Dr. Nkrumah and that his political position was solid and leadership unquestioned. But there was great discontent amongst the people and the army. So when he was on good will tour, he was overthrown on Feb. 24, 1966 by a military coup. A National Liberation Council of army and police chiefs dismissed Dr. Nkrumah's ministry, suspended the Constitution and Parliament, governed the country till August 1969 when election was held and a Democratic Government was formed. But 3 further COUPS occurred in 1972, 1978 and 1979.

Ghana is rich in mineral wealth, including gold, manganese, diamonds and bauxite. It is the world's leading cocoa producer (about 40 p.c. of world output). Cultivation of rubber is fostered. Forest reserves are great. Exports include cocoa, timber, gold, manganese and diamonds. AREA—92,100 sq.m. POPULATION—14,025,000. Capital—ACCRA. Currency—NEW CEDI. Ports—TIMA, SEKONDI-TAKORADI.

GREAT BRITAIN & NORTH IRELAND—comprises England, Wales, Scotland, North Ireland, Isle of Man and the Channel Islands, lies on the north-west corner of Europe. Parliament is the legislative governing body of the United Kingdom, with certain powers over the dependent units but none the independent States. It consists of two Houses—the House of Lords and the House of Commons. The House of Lords is made up of the peers of the United Kingdom. The House of Commons has 630 members who are elected by direct ballot and divided as follows; England 511; Wales & Monmouth 36; Scotland 71; Northern Ireland 12. United Kingdom is a constitutional monarchy with the Queen and a parliament. Supreme legislative power is vested in the Parliament. The executive power of the Crown is exercised by the Cabinet, headed by the Prime Minister. UK's major occupations are manufacturing and trade. The country is rich in mineral resources. AREA—94,209 sq.m. POPULATION—55,962,000. Capital—LONDON.

GREECE—lies on the Balkan peninsula in S.E. Europe, stretching down into the Mediterranean Sea. The Government was a constitutional hereditary monarchy. A military COUP on April 21, 1967, suspended the parliamentary government. King Constantine led a counter-coup against the 8 month old military dictatorship on Dec 13, 1967. But the coup was crushed and the King fled to exile. It became a Presidential Republic abolishing the monarchy on 1st June, 1973. The President will be elected directly by the people for a 7-year term. The president will have the power to nominate the Prime Minister and 20 members of the Parliament.

The country is chiefly agricultural. The important agricultural products are wheat, rye, barley, oats, rice, cotton, tobacco, citrus fruits, resins and figs. Principal industries are textiles, wine, cement, food processing and chemicals. Greece has the third largest merchant fleet in the world. AREA—50,547 sq.m. POPULATION—9,170,000. Capital—ATHENS. Currency—DRACHMA. Ports—PIRACUS, THESSALONIKI, PATRAI.

GRENADA—Southernmost in the long arc of the Windward Islands Grenada lies in the south east Caribbean, 90 miles north of the Venezuelan coast. Formerly a British Associated State with limited self-government, Grenada became fully independent on Feb. 7, 1974. The economy is agricultural. Main products are nutmegs, bananas, cocoa and sugar. Area—133

sq.m. POPULATION—100,000. Capital—ST. GEORGE'S. Currency—E. CARIB DOLLAR. Port—ST. GEORGE'S.

GUATEMALA—a republic of Central America. Under the Constitution, promulgated on Sept. 15, 1965 following a military COUP, the administration is carried on, under the President, by the Council of State of 14 members. Coffee accounts for the bulk of the export. Other important export crops are bananas, cotton and sugar. AREA—42,042 sq.m. POPULATION—8,079,000. Capital—GUATEMALA CITY. Currency—QUETZALES. Ports—PUERTO BARRIAS, SAN JOSA.

GUINEA—Formerly a part of French West Africa, Guinea is situated on the west coast between Portuguese Guinea and Sierra Leone. It was proclaimed an independent republic on Oct. 2, 1958. The nation's first Constitution, adopted on Nov. 12, 1958, provided for rule by a President with a 7-year term and a Cabinet.

Guinea has possibly the world's largest deposits of bauxite. Chief agricultural products are rice, palm-nuts, bananas, coffee, groundnuts, millet, pineapples. It exports coffee, honey, bananas, iron and aluminium ore. AREA—94,925 sq. m. POPULATION—5,654,300. Capital—CONAKRY. Currency—SILY. Port—CONAKRY.

GUINEA-BISSAU—Portuguese Guinea colonial possession of Portugal, achieved independence as Guinea-Bissau, a republic on Sept. 10, 1974, it is in West Africa. AREA—13,948 sq.m. POPULATION—849,600. Capital—BISSAU. Currency—ESCUDO.

GUYANA—Formerly known as British Guyana, it is situated on the northeast coast of South America on the Atlantic. After remaining 152 years as a British dependency it became independent within the Commonwealth on May 26, 1966. It became a republic on 23rd February, 1970. There is a unicameral legislature the National Assembly of 53 members elected for 4 years.

About 87 p.c. of the land area is forested. Agriculture is the main livelihood of the population. Chief cash crops are rice and sugar. Other products include coconuts, coffee, citrus fruits, rum, molasses, timber. There are also deposits of gold, iron, diamonds, manganese and mica. Mining of bauxite ore is the main industry; Guyana is the world's 4th largest producer of bauxite. Population consists mainly of East Indian and Negro descent. AREA—83,000 sq.m. POPULATION—877,000. Capital—GEORGETOWN. Currency—DOLLAR. Port—GEORGETOWN.

HAITI—a republic of the Caribbean occupying western third of the island of Santo Domingo, formerly known as Hispaniola. It is the only Negro French speaking republic in western hemisphere. The country's natural resources are very poor. Chief cash crop is coffee. Other products are sisal, cotton, raw sugar, bananas, cocoa, tobacco and rice. Molasses and rum are produced. Valuable woods are exported. Major mineral exports are bauxite and copper. AREA—10,714 sq. m. POPULATION—4,939,000. Capital—PORT-AU-PRINCE. Currency—GOURDES. Ports—PORT-AU-PRINCE, LES CAYES.

HONDURAS—a republic of Central America. The Constitution provides for a President & a unicameral legislature, Congress of Deputies, each with a 6-year term. The chief agricultural products are coffee, cotton, maize, sugarcane, beans, bananas, Honduras has abundance of hard and soft-woods. Minerals include gold, silver, copper, lead, zinc, iron and antimony. AREA—43,277 sq.m. POPULATION—4,499,200. Capital—TEGUCIGALPA. Currency—LEMPIRAS. Ports—PUERT CARTES, LA CEIBO.

HUNGARY—a Central European Communist republic formed out of Austro-Hungary; it is the abode of the Magyars. The Soviet-type Constitution, adopted by the Parliament on Aug. 18, 1949, declared Hungary to be a "People's Republic" The Supreme organ in State control is Parliament with Deputies elected for 4 years by direct vote. When Parliament is not in session power is exercised by the Presidium headed by the Chairman. Executive power is vested in the Cabinet, headed by the Premier. Hungary has one of the largest bauxite deposits in the world. AREA—35,919 sq.m. POPULATION—10,650,000. Capital—BUDAPEST, Currency—FORINT.

ICELAND—an island of volcanic origin in the North Atlantic, close to the Arctic Circle. It was proclaimed a republic on June 17, 1944. Constitutionally the President is elected for 4 years by popular vote. Executive power of the State resides in the Prime Minister and his Cabinet. The ATLTHING (Parliament) is composed of two Houses. Iceland has no army or navy of its own; but under the North Atlantic Treaty Organisation and by the 1951 Agreement,

U.S.A maintains on the island its army, navy and air forces. Fishing is the most important industry. AREA—39,702 sq.m. POPULATION—230,000 Capital—REYKJAVIK. Currency—KONRUR. Port—REKJAVIK.

INDONESIA—is a republic of S.E. Asia, comprising territory formerly known as the Dutch East Indies. Indonesia comprises about 3,000 island and islets, the largest four being Java, Sumatra, West Borneo and Celebes. It is one of the richest countries in natural resources. There are vast supplies of tin, oil, and coal sizable deposits of bauxite, sulphur, manganese, copper, nickel, gold and silver. It is the main producer of petroleum in the far east. It rivals Malaysia in its output of rubber and tin. Agriculture occupies 80 p.c. of the population. There are many textile mills, big paper mills, match, tyre, glass and chemical factories, automobile and bicycle assembly works, etc.

From the early part of the 17th century much of the Indonesia Archipelago was under Dutch rule. Following Japanese military occupation in 1942-45, Nationalists proclaimed a republic on August 17, 1945. Four years of intermittent warfare between Dutch and Indonesian forces was terminated by agreements, signed on Nov. 2, 1948, transferring sovereignty all over Indonesia, except Netherlands New Guinea to the new interim government known as the Republic of the United States of Indonesia, effective on Dec. 27, 1949. In August 1950, and unitarian State was proclaimed, and its name was formally changed to Republic of Indonesia. Mounting economic and political unrest caused President Sukarno to issue a decree on July, 5, 1959 dissolving the Constituent Assembly and reinstating the 1945 Constitution which gave him almost unrestricted power as President-Premier, with a policy of 'guided democracy' for the country. He was named President for life on May 18, 1963.

On Sept. 30 1956, a pro-communist COUP almost toppled the regime of Sukarno. In the bloody uprising that followed, Army took control of the country and the Government, and Sukarno's powers curtailed. On March 12, 1966, the military commanders under the leadership of Gen. Suharto took over the executive power, leaving Sukarno as the nominal head of State. On July 5, 1966, the once all powerful Sukarno was stripped off of his life Presidency. On March 12, 1967, Gen. Suharto was made Acting President with full powers. He was officially named President for a 5-year term by the Provisional People's Consultative Congress on March 27, 1968 and was re-elected in 1973. AREA—788 sq. m. POPULATION—153,280,000, Capital—DJAKARTA. Currency—RUPIAH. Ports—DJAKARTA, SURABAJA, MEDAN, PALEMBANG, SEMARANG.

IRAN—a kingdom of western Asia, also known as PERSIA. Until 1978 Iran was a constitutional monarchy. Executive power was exercised by a Cabinet, headed by the Prime Minister who was appointed by the Shah and was responsible to MAJLIS (Parliament) which was elected for a 4-year term and had 200 popularly-elected members. The Shah had power to dissolve the Majlis.

The Shah of Iran, submitting to the most serious opposition to his 25 year's rule left Iran on Jan, 1979. His rule provoked a revolution and bloodshed in the streets which his government, civil or military, failed to quell. the movement was initiated by the exiled Muslim Leader Ayatullah Khomeini. Iran has now declared itself to be Muslim Republic.

Most of the country is desert and mountainous. Petroleum is the principal product and by far the biggest item of export. Iran is now the world's fourth largest oil producer. Agricultural products, include wheat, barley, corn, rice, fruits nuts, gums, tobacco, raw silk, cotton, oilseeds. AREA : 636,363 sq. m. POPULATION—44,449,200. Capital—TEHERAN. Currency—RIAL. Ports—KHORRANSHAHR, BUSHEHR, BANDER-E-SHAHPUR, BANDAR, ABBAQ.

IRAQ—an Arab Republic in the Middle East, formerly known as Mesopotamia ; created as a result of World War I when under the Treaty of Lousanne (1923) Turkey renounced the sovereignty over Mesopotamia. The League of Nations gave a mandate to Britain, which ended in 1932 when Iraq was recognised as sovereign state. A constitutional monarchy was created in 1924. During a COUP D'ETAT on July 14, 1958, the King was assassinated and Iraq was proclaimed a "Part of the Arab nation" by revolutionary council.

A republican form of government was established by Brig. Kasim. On Feb.8, 1963, the Kasim regime was overthrown by a further COUP and Kasim was executed. After several coups a provisional constitution, announced on May 3, 1964, provided for a 3-year transition period, and strong ties with U.A.R.

AREA—69,898 sq.m. **POPULATION**—8,610,000. **Capital**—PHNOM PENH. **Currency**—RIEL. **Port**—KOMPONG SOM.

KENYA—a former British colony and protectorate in East Africa, it became independent within the Commonwealth on Dec. 12, 1963 and a republic on Dec. 12, 1964. The President heads the Government. The National Assembly has two Houses, the Senate and the House of Representatives. Three-fifth of the country is arid. Important agricultural crops are coffee, tea, sisal, maize, wheat, coconuts, cashew-nuts, cotton and sugar. Kenya is the largest producer of tea in Africa. Principal minerals include gold, copper, limestone, gypsum, etc. **AREA**—224,960 sq. m. **POPULATION**—19,759,000. **Capital**—NAIROBI. **Currency**—SHILLING. **Port**—MOMBASA.

KIRIBATI—Formerly known as the British colony of the Gilbert Islands, Kiribati includes 33 islands scattered across about 2 million miles of the Central and South Pacific Ocean. The islanders grow coconuts as their main export crop. The islands have almost no natural resources. Britain granted independence to Kiribati on July 12, 1979. **AREA**—332 sq. m. **Population**—62,277. **Capital**—BAIRIKI, TARAWA.

NORTH KOREA—On May 1, 1948 the Communists formed the Democratic People's Republic of Korea in North Korea. It has a typical Soviet type Constitution adopted on Sept. 2, 1948. On June 25, 1950 the North Korean Army crossed the 38th parallel and invaded South Korea. The U.N. Security Council demanded immediate withdrawal of the North Korean Army. U.S.A. entered the war in support of South Korea. China joined the side of North Korea on Nov. 26, 1950. The truce talks between the combatants continued in 1952 and 1953 amid sporadic hostilities. An armistice was signed finally at Panmunjon on July 27, 1953. It contemplated an international political conference on the status of Korea but negotiations for arranging it broke down. The question was discussed without result at the Geneva Conference on Far Eastern problems (April 26-June 19, 1954).

Most of the island is mountaineous and forested. Rice is the main agricultural product. North Korea has fairly well-developed sufficient mineral resources. It is a leading country in the output of tungsten, graphite and magnesite. **AREA**—46,786 sq.m. **POPULATION**—19,010,000. **Capital**—PYONGYANG. **Currency**—WON. **Ports**—CHAGJIN, HAMHUNG, NAMPO.

SOUTH KOREA—is a republic with legislative powers vested in a unicameral Parliament and executive powers in a popularly-elected President and a Cabinet headed by a Premier. It is chiefly an agricultural country, the main crops being rice, barley, wheat, cotton, tobacco and beans. Mineral deposits are insufficient with the exception of tungsten. Several industries like timber, rubber, glass, ship-building, electronics and silk are expanding rapidly. **AREA**—38,031 sq.m. **POPULATION**—42,314,000. **Capital**—SEOUL. **Currency**—WON. **Ports**—PUSAN, INCHON.

KUWAIT—is a small Arab State formerly under British protection. It became fully independent on June 19, 1961. It extends along the northern and of the Persian Gulf from Iraq to Saudi Arabia. Petroleum is the economic mainstay of Kuwait. It is the world's second largest exporter and fourth largest producer of crude oil. The country is ruled by an Amir but all laws are passed by National Assembly of 66 members. The Prime Minister is appointed by the Amir. **AREA**—7,780 sq.m. **POPULATION**—1,314,000. **Capital**—KUWAIT. **Currency**—DINAR. **Port**—MINA MINAL AHMADI.

LAOS—an independent sovereign republic in S.E. Asia. It is one of the three former French Indo-Chinese Union. It became a French protectorate in 1893 and a member of the Indo-Chinese Union in 1899. It became an independent sovereign State within the French Union on July 19, 1949. The regime was recognised in the cease-fire with France on July 21, 1954. It was ruled by a Coalition Government from June 23, 1962. In 1970 communist forces seized more territory in Central and South-East Laos. On March 6, U.S. stepped up air support and military aid to Laos Government forces. Following a Feb. 21, 1973 ceasefire, the neutralists and Pathet Lao signed an agreement for a coalition government which took effect in April 1974. After Pathet Lao military gains Souvanna Phouma in May 1975 ordered Government troops to cease fighting and Pathet Lao troops took effective control of the country. The U.S. withdrew its huge aid mission. A Laos People's Democratic Republic was proclaimed on Dec. 3, 1975.

The country is mountaineous and densely forested in places. The chief agricultural products are rice, maize, tobacco, citrus fruits, tea, coffee, cardamom, potatoes, chinchona and

sticklac. Opium is an important source of revenue. AREA—91,429 sq.m. POPULATION—3,673,000. Capital—VIENTIANE. Currency—KIP.

LEBANON—a republic in the Middle East, occupying a strip of land along the Mediterranean coast, sandwiched between Israel in the south and Syria in the north and east. This smaller Arab State was formed out of the five former Turkish Empire districts of North Lebanon, Mount Lebanon, South Lebanon, Beirut and Bekka. Along with Syria, it became an independent State on Sept. 1, 1920. Both were administered under French mandate till November 1941. Lebanon is a free democratic country with a popularly-elected government. The executive consists of a President, a Prime Minister and a Cabinet appointed by him. The President must be a Christian, the Premier a Moslem. There is a unicameral legislature (Chamber of Deputies) of 99, elected every 4 years. Chief crops are apples, citrus fruits, olives, tobacco, grapes, vegetables, cereals. Important manufacturing products are textiles, leather goods, cement, oil refining and food product. AREA—4,015 sq.m. POPULATION—3,060,000. Capital—BEIRUT. Currency—POUND. Ports—BEIRUT, TRIPOLI, SIDON.

LESOTHO—Formerly known as Basutoland, Lesotho is an enclave within the Republic of South Africa. It became independent on Oct. 4, 1966. For administrative purposes the territory is divided into 9 districts. As a result of constitutional reforms, which came into operation in April 1965, the territory has a Cabinet, which is the main policy-making body, and a Parliament of 60 members. Main agricultural products are maize, sarghtuim, barley, beans and peas. Main industry is livestock raising which produces wool and mahair, the chief exports. AREA—11,176 sq.m. POPULATION—1,316,000. Capital—MESERU. Currency—S. AF. RAND.

LIBERIA—the oldest Negro republic of West Africa on the Guinea coast. Most of the country is covered with tropical forests, rich in timber and oil nuts, Rice, coffee and sugarcane are cultivated.

Liberia was founded in 1822 by the American Colonization Society as a country for freed slaves from U.S.A and became an independent republic on July 26, 1847. The Government is modelled on that of U.S.A. The executive power is vested in a President and a Cabinet. The President is elected for a 8-year term. Parliament consists of a Senate of 18 members elected for 6 years and the House of Representatives of 52, elected for 4 years. AREA—43,000 sq.m. POPULATION—2,195,600. Capital—MONROVIA. Currency—DOLLAR. Ports—MONROVIA, BUCHANAN.

LIBYA—a North African State comprising Tripolitania, Cyrenaica and Fezzan, with a Mediterranean coast-line of nearly 1000 miles between Egypt and Tunisia and stretching approximately the same distance south to the Sahara. The greater part of the country is desert and barren. In 1912, an Italo-Turkish war left Libya in Italian hands. After the defeat of Italy in 1943 in the World War II. Tripoli and Cyrenaica remained under British and Fezzan under French military Governments. In conformity with a resolution of the General Assembly of the U.N. on Nov. 21, 1949, Libya became, Dec. 24, 1951, the first independent State created by the U.N. Libya has a hereditary monarchy under King Idris I till September 1, 1969 when in a military coup de grace the King was ousted, monarchy was declared abolished and the State was proclaimed a republic. Major oil-fields have been discovered in the country. Chief agricultural products are olives, lemons, almonds, figs, grapes and tobacco. AREA—679,536 sq.m. POPULATION—3,780,000. Capital—TRIPOLI. Currency—DINAR. Ports—TRIPOLI, BENGAZI.

LIECHTENSTEIN—an independent Alpine principality between Austria and Switzerland. It is a hereditary monarchy. The Constitution of 1921 provides for a legislature called Diet, of 15 members, elected for 4 years. AREA—62 sq.m. POPULATION—23,700. Capital—VADUZ. Currency—FRANKENON SWISS FRANC.

LUXEMBOURG—an European Grand Duchy situated between Germany, Belgium and France. It was given its present rank as principality by the Congress of Vienna in 1815. It was governed under the Constitution of 1863, with modifications. Legislative power rests with Council of State of 21, chosen for life by the sovereign, and a Chamber of Deputies of 59, elected by universal suffrage with executive power delegated to a Minister of State and a Cabinet of at least 3 Ministers. AREA—999 sq.m. POPULATION—362,000. Capital—LUXEMBOURG. Currency—BELGIAN FRANC.

MALAGASY—Formerly called Madagascar, Malagasy Republic is the world's fourth largest island in the Indian Ocean, off SE coast of Africa, from which it is separated by the 250-mile wide Mozambique Channel. It was a French protectorate since 1883. Constitutional reforms

introduced in 1957, gave the island internal autonomy, and it became an autonomous republic within the French Community on Oct. 14, 1958. It became an independent member of the French Community on June 26, 1960. The Constitution provides for a National Assembly of 157 and a Senate of 52 members.

Cattle-breeding and agriculture are the chief occupation of the people. The chief crops being Vanilla, rice, beans, maize, coffee, cloves, tobacco, sugarcane and cocoa. The forests contain many valuable woods and abounds in gums, resins and plants for tanning, dyeing and medicinal purposes. AREA—226,658 sq.m. POPULATION—9,174,440. Capital—TANANARIVE. Currency—FRANC. Ports—TAMATAVE, DEIGO-SUAREZ, MAJUNGA, TUBAR.

MALAWI—Following a conference on reform of the constitution of the Federation of Rhodesia and Nyasaland held in London in November 1962, Nyasaland assumed internal self-government on Feb. 1, 1963 and became an independent State under the name Malawi on July 6, 1964. The new State became a republic within Commonwealth on July 6, 1966. There is a Cabinet consisting of the Prime Minister and 9 other ministers. The National Assembly has 107 members elected by voters on a general roll and 3 members elected by European community on a special roll. AREA—45,747 sq.m. POPULATION—6,938,300. Capital—LILONGWE. Currency—KAWACHA.

MALAYSIA—The Federation of Malay became an independent country within the Commonwealth on August 31, 1957, following an agreement between the Queen of England and the Rulers of Malay States. On Sept. 16, 1963, the Federation was enlarged by the accession of the further states of Singapore, Sarawak and British North Borneo (renamed Sabah), and the name of Malaysia was adopted from the date. Brunei withdrew from the proposed Federation on July 9, 1963, Singapore seceded from the proposed Federation on August 9, 1965 (see Singapore).

Malaysia is a 138 sq.mile crescent stretching from Thailand across South China Sea to the backdoor of the Philippines. About 75 p.c. of the total area is forested and mountainous. The country is essentially agricultural. It is the world's largest producer of rubber and tin. Other items of exports include iron ore, timber, palm oil, copra, pepper etc.

Malaysia is a limited constitutional monarchy, with a Paramount Ruler of Supreme Head of State, elected for 5-year term by the Rulers of different States among their number, and a Deputy Supreme Head of State, similarly elected. Legislative authority is vested in a Parliament consisting of two Houses the Senate of 58 members under a President, and the House of Representatives of 154 members. AREA—128,328 sq.m. POPULATION—15,498,000. Capital—KUALA LUMPUR. Currency—RINGGIT. Ports—GEORGETOWN, KELANG, MELAKA, KUCHING.

MALDIVES, REPUBLIC OF—a group of 19 atolls containing 1,087 tiny coral islands in the Indian Ocean, 420 miles south-east of Indian coast, of which only 220 are inhabited. There are 22 clearly defined clusters of atolls separated from each other by deep channels. Formerly, it was a dependency of Ceylon and thereafter a British protectorate since 1887. Complete independence was proclaimed on July 26, 1965. The Maldives was a Sultanate. The country became a republic on Nov. 11, 1968, with a popularly elected President and legislative (MAJLIS). The islands produce coconuts, fruits, nuts and millets. But Maldivian economy is based on the fishing industry. The people are all Moslems. AREA—115 sq.m. POPULATION—146,000. Capital—MALE. Currency—RUPEE. Ports—MAB ATALL.

MALI, REPUBLIC OF—an island State in North-West Africa. Formerly the French colony of Sudan, this territory elected on Nov. 24, 1958, to remain as an autonomous republic within the French Community. On Jan. 17, 1959, it formed with neighbouring Senegal the FEDERATION OF MALI, which was granted full independence on June 20, 1960. Senegal withdrew from the Federation on Aug. 20 same year and the name of Republic of Mali was adopted in September. Though it is no longer a member of the French Community it maintains economic and cultural relations with France. A bloodless army coup on Nov. 19, 1968, ousted the President Mobido Keiat, and a 14-man military national liberation committee took control of the country. AREA—478,767 POPULATION—7,649,000 sq.m. Capital—BAMAKO. Currency—FRANC.

MALTA—a small island in the Mediterranean Sea, 58 miles south of Sicily. It was connected with Sicily from 1090 A.D. Napoleon conquered this island in 1798. It was annexed to Great Britain in 1814. It was a base for the British fleet. Malta voted integration with Great Britain in 1956, but negotiation broke down. On September 21, 1964, Malta became an inde-

pendent State within the Commonwealth. It became a republic on Dec. 13, 1974. It has an elected legislative of 65 from whom a Prime Minister and a Cabinet are elected. AREA—122 sq.m. POPULATION—330,756. Capital—VALETTA. Currency—POUND. Port—VALETTA.

MAURITANIA, ISLAMIC REPUBLIC OF—lies on the north-west coast of Africa between Senegal and Spanish Sahara. A former French Overseas Territory, Mauritania became, under the provision of the 1958 French Constitution, an autonomous State on Nov. 28, 1958 and fully independent on Nov. 28, 1960. It elected to remain outside the French Community, but retains close ties with France. A Government of Council of ministers administers the Republic. The National Assembly consists of 34 members. The chief agricultural products are dates grain tobacco, fish. There are large herds of cattle, sheep and goats. There are large deposits of iron and copper. AREA—397,955 sq. m. POPULATION—1,605,000. Capital—NAOUAKCHOTT. Currency—OUGUIYAS. Ports—NOUAKCHATT. NOUADHIBOU.

MAURITIUS—This tiny island in the Indian Ocean, 575 miles east of Malagasy, was discovered in 1511 by the Portuguese. The Dutch, who visited the island in 1598, named it Mauritius. They set up a colony on the shore in 1698, but abandoned it in 1710. In 1715, the French settlers took possession of the island. The British force captured it in 1810. Independence was proclaimed on March 12, 1968.

The economy of Mauritius is based almost entirely on a single commodity, sugar, which accounts for over 95 p.c. of the island's trade. Most of the population are of Indian origin. AREA—787 sq. m. POPULATION—988,000. Capital—PORT LOUIS. Currency—RUPEE. Port—LOUIS.

MEXICO—a federal democratic republic on the southern part of the North American continent. It comprises 29 States with President, legislature and judiciary elected by universal suffrage, 2 territories with governors appointed by the President, and a federal district containing Mexico City. The President is elected for six years and governs with a Cabinet of Ministers. The Federal Congress has two Houses—Chamber of Deputies of 400 members and Senate of 64 members, elected for 6 years.

Mexico has vast mineral wealth and produces petroleum, silver, gold, copper, lead quick-silver, antimony, zinc, mercury, sulphur, arsenic, iron and coal. It is the world leader in the production of silver, sisal, hemp and circle for chewing gum. Agriculture, stock raising and fishing are important. Main crops for export are cotton, coffee, sugarcane, frozen meat and tomatoes. Mexico's forests are of considerable importance. Forest products include turpentine, resins and vegetable wax. AREA—761,601 sq. m. POPULATION—70,590,000. Capital—MEXICO CITY. Currency—PESO. Port—VERACRUZ, TAMPICO, MAYATTAN, COATZACOALCAS.

MONACO—a tiny independent principality in the South France. On the Mediterranean coast, with land frontiers joining France at every point. It is noted for an exceptionally mild climate and magnificent scenery. It is the smallest and densest State in the world. It is divided into 3 communes. The King rules through a legislative (National Council) of 18 members elected for 5 years. AREA—0.58 sq. m. POPULATION—23,000. Capital—MONACO. Currency—FRENCH FRANC.

MONGOLIAN PEOPLE'S REPUBLIC—or Outer Mongolia is a sparsely populated country, north of China, and one of the world's oldest countries, once under Chinese suzerainty. Gobi Desert covers much of the central and southern parts. This former Chinese province first declared its independence on March 13, 1921, but monarchy of Bagdo Gegen Khan persisted in limited form until the Khan's death in 1924, when the Government proclaimed the country as the Mongolian People's Republic. China claimed a measure of suzerainty over it until it severed all ties by a plebiscite on October 20, 1975, a treaty with National China on Jan. 5, 1946, and subsequent Sino-Soviet agreements. Part of North-West Mongolia was incorporated in the USSR as an autonomous province. According to the Constitution of 1940, since amended, legislative power is vested in the Parliament (GREAT PEOPLE'S KHURAL) with members elected for a 3-year term by universal suffrage. AREA—604,247 sq.m. POPULATION—1,530,000. Capital—ULAN BATOR. Currency—TOGROG.

MOROCCO—one of the Barbary States on the north-western top of Africa. The Empire theoretically was an absolute monarchy, but the country was divided into three zones—the FRENCH, the SPANISH and the INTERNATIONAL TANGIER ZONE. The country in effect was partitioned and subjected to foreign rule from 1912 to 1956. As a result of Protectorate Treaty with France in 1912 and a Convention between France and Spain in 1912, the country

was divided into French and Spanish 'spheres of influence, known respectively, as FRENCH MOROCCO and SPANISH MOROCCO. In 1923 the city of Tangier with a small enclave in Spanish Morocco was neutralized and demilitarised. After a lengthy period of unrest French Government was forced in 1956, to recognise Morocco an independent sovereign State, and Spanish Government agreed in 1956 that Spanish Morocco was an integral part of the Morocco State. In May 1956, the Tangier International Control Committee agreed to the integration of Tangier with the rest of Morocco. Under a Constitution approved by referendum on Dec. 7, 1962, it became a constitutional monarchy. The Constitution came into force on Dec. 12, 1962, and provides for a bicameral elected legislature (Parliament) with limited legislative powers. The lower house (Chamber of Representatives) consists of 144 members. Morocco is primarily agricultural and pastoral Cereals rank first among agricultural products, including barley, wheat, and corn. It is primarily an agricultural country. Fruits and grapes abound. AREA - 275,117 sq.m. POPULATION - 23,907,000. Capital - RABAT. Currency - DIRHAMS. Ports - TANGIER, CASABLANCA, KENITRA.

MOZAMBIQUE - The first Portuguese port on the Mozambique coast was established in 1505. It became independent on June 25, 1975. Agriculture dominates the economy. Coal is the leading mineral. AREA - 303,373 sq.m. POPULATION - 13,600,000. Capital - MAPUTO. Currency - ESEUDO. Ports - MAPUTO, BEIRA, NOCALA.

NAMIBIA - Namibia is bordered on the north by Angola and Zambia, on the east by Botswana and on the Southeast and south by South Africa. AREA - 318,260 sq.m. POPULATION - 1,006,360. Capital - WINDHOCK.

NAURU - a tiny island in the Pacific, 1,500 miles north-east of Australia. It was annexed by Germany in 1888 then mandated by the League of Nations to Great Britain and was placed under UN Trusteeship on Oct. 22, 1947. It was being administered jointly by Great Britain, Australia and New Zealand. It became a republic on Jan. 31, 1968 when the 20-year old UN Trusteeship agreement was terminated. The land has valuable phosphate deposits. AREA - 8 sq.m. POPULATION - 7,128. Capital - YAREN. Currency - AUSTRALIAN DOLLAR.

NEPAL - a constitutional monarchy on the southern slopes of the Himalayas, bounded on the north by Tibet, south and west by Bihar and UP, and east by Sikkim and West Bengal. It stretches over 500 miles between India and Tibet. Physically, it consists of two district territories; the TERAI or strip of land cultivated lying along the southern border and the great mountainous tract stretching northwards to Tibet. Nepal has three great distinctions of containing MOUNT EVEREST (29,028 ft.), the highest mountain peak in the world, producing some of the toughest fighting men in the world - GORKHAS, and being the only Hindu independent State in the world. From the middle of the 19th century, Nepal was ruled by the Ranas or hereditary Prime Ministers of the country. But a revolution in 1950-51 overthrew Rana autocracy, and restored the long-lost monarchy. A constitution promulgated by the King on February 12, 1959, provided for a constitutional monarchy with a Cabinet, a lower house of Parliament of 125 and an upper house of 36, 18 elected by the lower house and 18 by the King. But the Constitution did not work well and has been replaced by a new one based on PANCHAYAT-SYSTEM, introduced on April 14, 1963, following a state of emergency in the country and the dismissal of the then cabinet by the King.

Nepal is self-sufficient so far as food is concerned. It claims itself to be the world's best rice-producer. Some of the surplus agricultural products, such as rice, jute, wheat, oilseeds, as well as timber, hides, drugs, etc. are exported. Nepal has rich forest and quartz deposits. Minerals found are gold, silver, copper, lead and iron ores, but the mining of these underground reserves is undeveloped. AREA - 54,362 sq.m. POPULATION - 16,785,000. Capital - KATHMANDU. Currency - RUPEE.

NETHERLANDS - a maritime country in north-western Europe. The Government is constitutional and hereditary monarchy. Executive power is vested exclusively in the Crown, while the legislative powers rest with the Crown and the two-chambered Parliament.

The Netherlands rank high among the world's ship-building nations. Dairy farming is an important industry. Main agricultural products are cereals, potatoes, sugar beets and other crops. The most important industries are ship-building, the manufacture of machinery, textiles (including rayon), and chemical products. Amsterdam is famous for diamond cutting. Coal, oil and salt are also found. AREA - 15,770 sq.m. POPULATION - 14,897,616. Capital - AMSTERDAM. Currency - GUILDERS. Ports - ROTTERDAM, AMSTERDAM, IJ-MUIDEN.

NEW ZEALAND—a self-governing member of the Commonwealth in the South-West Pacific. It consists of North Island and South Island, Stewart Island, Chatham Island and some small uninhabited Pacific Islands. The Islands were visited and chartered in 1769, by Captain Cook. From 1800 onwards sealers and whalers settled along the coasts, Christianity was introduced in 1814, and in 1832 a British Resident was appointed. On Sept. 26, 1907 the designation was changed to the DOMINION OF NEW ZEALAND. The Constitution rests upon the Imperial Act of 1852. The executive authority is vested in the Governor appointed by the Crown and aided by an Executive Council from an one-chambered legislature, the House of Representatives of 95 members. Important products are wool, meat and dairy. Food processing is the largest industry. AREA :—103,737 sq.m. POPULATION—3,110,000. Capital—WELLINGTON. Currency—DOLAR. Ports—AUKLAND, WELLINGTON, LITTLETON, TAURANGA.

NICARAGUA—is the largest of the Central American States and lies between the Caribbean Sea and the Pacific Ocean. It is an independent republic since 1838. The Constitution provides for a Congress of 2 chambers, a Chamber of Deputies of 45 members and a Senate of 18 members, each elected for 4 years. The President is elected for 5 years by direct suffrage. More than half of the country is jungle-covered and sparsely populated. Gold and silver are the most important minerals found. AREA :—50,193 sq.m. POPULATION—2,310,000. Capital—MANAGUA. Currency—CORDOBA. Ports—CORINTO, PUERTO SOMOYA, SAN JUAN DEL SUR.

NIGER, REPUBLIC OF—a former French Overseas Territory in West Central Africa. The first French expedition arrived there in 1891 and the country was fully occupied by 1914. It decided on Dec. 18, 1958, to remain an autonomous republic outside the French Community. Full independence outside the French Community was proclaimed on Aug. 3, 1960. Special agreements with France were signed in Paris on April 24, 1961. The constitution provides for a presidential system of government and a single-chambered National Assembly of 60 members. Peanuts are the principal cash crop, live stock are second in importance. Cotton is being promoted. AREA :—489,206 sq.m. POPULATION—5,194,110. Capital—NIAMEY. Currency—CFA FRANC.

NIGERIA, THE FEDERATION OF—is situated on the west coast of Africa. Eastern and Western Nigeria became self-governing in 1957 and Northern Nigeria in 1959. The Mid-Western Region was set up in 1963. The Federations of Nigeria became fully independent on Oct. 1, 1960, continuing as a member of the Commonwealth and a Republic on Oct. 1, 1963. The Constitution provides for a Federal Parliament consisting of the President, a House of Representatives of 312, directly elected and a senate, indirectly elected. Each Region has an Executive Council presided over by a Premier, House of Assembly, and a House of Chiefs. The Governor of each Region acts on the advice of the Executive Council. On 15th January, 1966, the Federal Government of Nigeria was overthrown in an army COUP and a military rule under Maj.-Gen. A. Ironsi was established there. Maj.-Gen. Ironsi was killed in a further COUP in August 1966. The Eastern Nigeria seceded from the Federation to become Independent Republic of Biafra on May 30, 1967. The Federal Government declared the act of secession as rebellion and enforced blockade. Nigeria's rich natural resources include oil, coal, iron, limestone and natural gas. Cocoa is the main crop. AREA :—356,669 sq.m. POPULATION—71,507,300. Capital—LAGOS. Currency—NAIRA. Ports—PORT HARCOURT, BONNEY, LAGOS.

NORWAY—a kingdom of North-West Europe, occupying the western part of the Scandinavian Peninsula. Norway is a constitutional and hereditary monarchy. Legislative power is vested in the STORTING (Parliament) with 155 members. They choose one-quarter of their number to form the LAGTING (Upper House), the other quarters forming the ORELSTING (Lower Chamber). Executive power is vested in the King acting through the Cabinet or Council of State (STATARAND) comprising the Prime Minister and 14 Ministers. In the North Cape area is the phenomenon known as MIDNIGHT SUN. The Sun does not set from the middle of May until the end of July nor does it rise above the horizon approximately from Nov. 18 to Jan. 23. Vari-coloured Northern Lights, or AURORA BOREALIS are visible in winter.

Almost 74% of the land is unproductive. Forests over 23% of the area and the principal source of wealth. Paper and wood-pulp industries flourish. Fishing is the major occupation of the people, and mining is an important industry. Norway is one of the greatest seafaring nations, and its merchant marine is now the third largest in the world. AREA :—125,181 sq.m.

POPULATION—4,040,000. **Capital**—OSLO. **Currency**—KRONER. **Ports**—BERGEN, STAVENJER, OSLO, TONSBORG.

OMAN—an Arab Sheikdom which was under British protectorate since the early 19th century, Oman emerged into independence in 1971. The chief exports of Oman are dates, fruits, vegetables and fish products. **AREA** :—82,030 sq.m. **POPULATION**—884,000. **Capital**—MUSCAT. **Currency**—RAIL. **Ports**—MATRAH, MUSCAT.

PAKISTAN—Pakistan on the Arabian Sea in the Indian sub-continent's north-west is surrounded by Iran, Afghanistan, China and India. Poor in industry and natural resources, Pakistan is mainly an agricultural nation. **AREA** :—310,400 sq.m. **POPULATION**—97,884,000. **Capital**—ISLAMABAD. **Currency**—RUPEE. **Port**—KARACHI.

PANAMA—a republic occupying the entire isthmus of the same name, connecting Central and South America and separating the Atlantic from the Pacific Ocean. The coast of Panama was sighted by Rodrigo de Basstidas, sailing with Columbus for Spain in 1501. Freed from Spain, Panama joined Columbia in 1821. Panama declared its independence from Columbia on Nov. 3, 1903, with U.S. recognition. Panama Canal is the country's big economic asset. On November 18, 1903, Panama granted the Canal Zone to the U.S. by treaty. Panama Canal Zone is governed by the Canal Zone Government and operated by the Panama Canal Company, both set up on July 1, 1951. The Secretary of U.S. Army holds all the share of the Company. Panama adopted its 4th constitution in 1972 providing for a President. Legislative Council and an elected Assembly.

Panama has extensive forests. Bananas are the main item of export. **AREA** :—29,762 sq.m. **POPULATION**—7,911,688. **Capital**—PANAMA CITY. **Currency**—BALBOA. **Ports**—CRISTOBAL, PUERTO ARMUELLAS.

PAPUA NEW GUINEA—occupies the eastern half of the island of New Guinea. It became independent on Sept. 16, 1975. Commercial crops include coconut, cocoa, coffee and rubber. **AREA** :—1,78,260 sq.m. **POPULATION**—3,067,600. **Capital**—PORT MORESBY. **Currency**—KINA. **Ports**—MORESBY, LAE.

PARAGUAY—a South American republic situated between Argentina, Bolivia and Brazil. The Constitution of 1967 provides for a two-chambered Parliament consisting of a 30-seat Senate and a 60-seat Chamber of Deputies. The President is elected for 5 years. He appoints the Cabinet and has wide emergency powers.

Timber resources of Paraguay are enormous. Stock-raising, forestry and agriculture are the most important sources of production. Cattle breeding is the principal industry. Main items of export are beef, cotton, hides, tobacco, timber etc. **AREA** :—157,048 sq.m. **POPULATION**—3,672,000. **Capital**—ASUNCION. **GUARANI**. **Port**—ASUNCION.

PERU—a maritime republic on the Pacific coast of South America. The country is traversed throughout its length by the Andes. Under the 1933 Constitution, the President is elected for 6 years by direct popular vote. Legislative power is vested in a Senate and a Chamber of Deputies, each houses being elected for 6 years. There were two COUPS—one in Oct. 1968 and the other on August 29, 1976.

Peru has vast mineral resources. It ranks fifth in the world in silver production and mines about 25 p.c. of the world's vanadium. The leading agricultural produce is cotton. Peru is world's top fishing country. Fishmeal is the biggest item of export. **AREA** :—496,225 sq.m. **POPULATION**—19,406,000. **Capital**—LIMA. **Currency**—SOB. **Ports**—CALLAO, CHIMBATE, MOLLENDU.

PHILIPPINES—is the largest island groups in the Malaya Archipelago. It consists of 7,090 islands, lying about 500 miles off the south-east coast of Asia. The largest islands are Luzon, Mindanao, Samar, Negras and Palawan. The independence of the Philippines was proclaimed on July 4, 1946 in accordance with the Act passed in the U.S. Congress in 1934. The Philippines have a republican form of Government, based on that of the United States. Executive power is exercised by the President, popularly elected for a 4-year term and assisted by a Cabinet appointed by him. The popularly elected Congress has two houses—the Senate with 27 members, elected at large for a 6-year term and the House of Representatives with not more than 200 members, elected for a 4-year term.

Forests cover nearly 60 p.c. of the islands and are the source of excellent timber, bamboo, gums, resins, bee wax and medicinal plants. The chief agricultural products are unhusked rice, manila hemp, sugar-cane, corn and tobacco. The principal export fruit is pineapple. The islands are rich in mineral resources. Most important are gold, silver, iron ore, copper ore, chromite,

manganese ore, lead and zinc, AREA : — 115,707 sq.m. POPULATION — 56,167,000. Capital — MANILA. Currency — PESO. Ports — CEBU, MANILA, ILOILO, DAVAO.

POLAND — a communist republic of Central Europe, known as Polish People's Republic. The Constitution of 1952 describes Poland as a people's republic in which the highest authority is the SEJM (Parliament) of 460 members, elected for a 4-year term. The SEJM elects a Council of State and a Council of Ministers (Cabinet). In most respects it follows the pattern set by the U.S.S.R. Constitution of 1936. The Council of State is the highest organ of the Government.

Poland possesses great mineral wealth. It is one of the world's leading coal producers. Iron, zinc and lead ores, copper, sulphur, clay, granite and chalk are the other mineral deposits. Poland is essentially an agricultural country. AREA : — 120,359 sq.m. POPULATION — 35,700,000. Capital — WARSAW. Currency — ZLOTY. Ports — GDANSK, Gdynia, SZECIN.

PORTUGAL — is a republic of S.W. Europe, occupying the western part of the Iberian Peninsula. Under the 1933 Constitution, revised in 1951, Portugal is a Unitary Corporate Republic. Two assemblies of 120 members each were chosen — the first, the National Assembly, to exercise legislative powers, by direct election by heads of families, regardless of sex, for 4 years; the second, the Corporate Chamber, chosen through a system of guild or syndical representation. It deals with economic and social matters and advises the National Assembly. The Assembly may override a presidential veto by a two-third vote. The President is elected by an elected college composed of members of the Assembly and the Chamber and representatives from various districts for a 7-year term. The Premier is appointed by the President; neither the Premier nor his Cabinet is responsible to the National Assembly. From 1932, a strong repressive government was headed by Premier Salazar. Illness forced his retirement in Sept. 1968. Rebel troops overthrew the Rightist authoritarian regime on April 25, 1974. The new government dedicated itself to establishing democracy in Portugal. Free elections under the new constitution were held in 1976. Portugal leads in the world in the production of cork. AREA : — 35,340 sq. m. POPULATION — 10,065,000. Capital — LISBON. Currency — ESCUDO. Ports — LISBON, SETUBAL, LEIXOES.

QATAR — An Arab Sheikdom. Since 1916 it was under British protection. As Britain announced withdrawal from the Gulf area to be completed by the end of 1971 the Persian Gulf state of Qatar declared herself independent on Sept. 1 of that year. AREA : — 4,000 sq. m. POPULATION — 2,80,500. Capital — DOHA. Currency — RIYAL. Ports — DOHA, MUSAYID.

ROMANIA — is communist republic of S.E. Europe. On Dec. 30, 1947 King Michael I was forced to abdicate, and the Romanian People's Republic was proclaimed. People's Democratic Front won majority in the Grand National Assembly. A new Constitution was passed and the Presidium and the Council of Ministers appointed. Thereafter progress towards socialism was hastened by Nationalization Law of 1948 which brought under the State control, all industrial enterprises. A new Constitution, modelled on the Soviet Constitution of 1939 was adopted on Sept. 24, 1952. A modification in March 1961, replaced the Presidium with the State Council, elected by the Assembly from its own membership. The Assembly is the supreme organ of State power. Its 369 members (Deputies) are elected for a 4-year term.

Romania is a highly industrialised country and has considerable mineral wealth. Petroleum is the backbone of the country's economy. Grape, wines and fruits abound. AREA : — 91,699 sq.m. POPULATION — 22,530,000. Capital — BUCHAREST. Currency — LEU. Ports — CONSTANTA, GALATI, BEAILA.

RWANDA — a small State in North Central Africa was a part of the former Belgium-U.N. Trusteeship of Ruanda-Urundi. Monarchy was abolished by popular votes on October 12, 1961, and the country became a republic on July 1, 1962. It is the most densely populated country in Africa. AREA : — 10,169 sq.m. POPULATION — 5,932,000. Capital — KIGALI. Currency — FRANC.

ST. LUCIA — Self government was granted with the West Indies Act, 1967. Independence was attained on Feb. 22, 1979. AREA : — 238 sq. m. POPULATION — 1,21,000. Capital — CASTRIES.

SAMOA — Western Samoa was a German colony during 1899 to 1914 when New Zealand landed troops and took over. It became a New Zealand mandate under the League of Nations and in 1945, a New Zealand-U.N. Trusteeship. An elected local government took office in Oct. 1959 and the country became fully independent on Jan. 1, 1962. It comprises 4 inhabited islands

of a group in the South Pacific ocean, lying about 2,600 miles southwest of Hawaii. AREA :—1,133 sq.m. Population—156,000. Capital—APIA. Currency—TALA. Ports—APIA, ASAU.

SAN MARINO—This smallest republic in the world is bounded by Italian territory. It claims to be oldest State in Europe being founded in the 4th century. San Marino, the capital, is situated on a spur of the Apennines. Two of the members are chosen to exercise executive powers for a term of 6 months, AREA: 23.5 sq.m. Population—23,200 Currency—Italian Lira. Capital—San Marino.

SAO TOME AND PRINCIPE—Formerly a Portuguese colony it became independent on July 12, 1975. It lies in the Gulf of Guinea about 125 miles off West Central Africa. Cocoa is the principal product. AREA :—372sq. m. POPULATION—89,500. Capital—SAO TOME. Currency—ESCUDO. Ports—SAO TOME, SANTO ANTONIA.

SAUDI ARABIA—is the most important State of the peninsula, occupying nearly four-fifth of its total area. It consists of Nejd, Hejaz and its two dependencies. Saudi-Arabia is a nearly absolute monarchy. A Council of Ministers headed by the Prime Minister rules the country. The country contains the holy places of Islam—Medina where lies the tomb of Mohammed and Mecca, the birthplace of the Prophet, which contains a great mosque. Saudi-Arabia possesses one of the great oil reserve of the world. AREA :—873,000 sq.m. POPULATION—10,972,000. Capital—RIYADH. Currency—RIYAL. Ports—JIDDA, AD-DAMMAN, RAS TANNURAH.

SENEGAL—a republic on the west coast of Africa. In 1946, Senegal became a part of the French Union together with other parts of French West Africa. On Nov.25,1958, it elected to remain within the French Community as a autonomous republic. On June 20, it federated with Sudanese Republic in the Mali Federation. from which it withdrew on August 22 in the same year following a political conflict. A new Constitution, approved in March 1963, gave executive powers to the President. AREA :—76,124 sq. m. POPULATION—6,688,800. Capital—DAKAR. Currency—CFA FRANC. Ports—DAKAR, SAINT LOUIS.

SEYCHELLES—The Seychelles are a group of 86 islands and islets in the Indian Ocean 700 miles north of Malagasy. The islands were occupied by France in 1768 and seized by Britain in 1794. It became independent on June, 28, 1976. Most of the population is engaged in agriculture and fishing. AREA :—171 sq.m. POPULATION—66,000. Capital—VICTORIA. Currency—RUPEE. Port—VICTORIA.

SIERRA LEONE—a peninsula on the west coast of Africa. A former British colony and protectorate, Sierra Leone became fully independent, and a member of the Commonwealth on April 27, 1961. For administrative purposes, the country is divided into 3 provinces covering 12 districts. Under the 1961 Constitution, the Governor-General representing the Crown is appointed on the advice of the Prime Minister. The House of Representatives consist of not less than 104 members. The Cabinet consists of the Prime Minister and not less than 7 other Ministers appointed by Governor-General

On March, 21, 1967 the military took over the Government, dissolved the Parliament and suspended the Constitution. They subsequently formed the National Reformation Council, headed by a Chairman. Principal exports are industrial diamonds, iron ore, bauxite, cocoa, coffee, palm kernels, kola nuts, ginger, hiassava. AREA—27,925 sq.m. POPULATION—3,470,000. Capital—FREETOWN. Currency—LEONE. Ports—FREETOWN, BONTHE.

SINGAPORE—a former British island colony, it lies in the narrowest part of the Strait of Malacca. The island is only 42 km. long and 22.5 km. wide. Nearly 75 p.c. of the total population is of Chinese origin. It is a major commercial centre and an important international air communications hub. Trade is the mainstay of the country's economy. The port handles 40 p.c. of the world's trade in tin and rubber. Industry plays a relatively, small part. The Island is the

site of massive British naval and air bases and the headquarters of the British Far East Command.

The island became a British colony early in the 19th century, by the end of which it was turned into a base for suppressing popular rising in or around Malaya. Along with the other British possessions in the Pacific it was captured by the Japanese during the Second World War ; but was liberated at the surrender of Japan. In 1946, Singapore was given the status of a separate British colony. On June 3, 1959, it was proclaimed an autonomous and self-governing State ; with British retaining control over the island's foreign policy and defence. On Sept. 16, 1963, it federated with Malaya and other States to form Federation of Malaya. It seceded from the Federation by an agreement on Aug. 9, 1965 and became a member of the Commonwealth. AREA—226 sq.m. POPULATION—2,310,000. Capital—SINGAPORE. Currency—DOLLAR.

SOLOMON ISLAND—a South Pacific archipelago of volcanic islands. Independent on July 7, 1978 after 85 years of British rule. Copra chief export, fishing main occupation of the people. AREA—11,500 sq.m. POPULATION—2,50,000.(est). Capital—HONIARA ON GAUDALCANAL ISLE. Currency—AUSTRALIAN DOLLAR.

SOMALIA—a republic occupying part of the north-east horn of Africa, with a coast-line on the Indian Ocean. The republic comprising the former British Somaliland Protectorate and former Italian U.N. Trusteeship of Somalia, was proclaimed on July 1, 1960. It is governed by a President elected for a 6-year term by National Assembly of 171 Deputies elected for a 5-year term. Principal products are sugar, bananas, sarghum, corn, gum, hides, kapok. AREA—246,155 sq.m. POPULATION—5,849,790. Capital—MOGADISHU. Currency—SHILLING. Ports—MOGADISHU, BERBERA.

SOUTH KOREA—a republic occupying the southernmost part of the African continent. It consists of the following provinces—Transvaal, Cape of Good Hope, Orange Free State and Natal. The Capital of the Union is Pretoria, thoughh Union's legislature meets in Cape Town. It was a member of the British Commonwealth up to 1960, from which it seceded in 1961, due to its apartheid policy. It became a republic on May 31, 1961. The President is chosen by an electoral college composed of members of the Senate and house of assembly of 160 are elected for 5 years term.

South Africa leads the world in the production in uranium, vanadium, chrome, manganese and asbestos. AREA—471,819 sq.m. POPULATION—31,885,300. Capital—PRETORIA (administrative). CAPE TOWN (legislative). Currency—RAND. Ports—DURBAN, CAPE TOWN, EAST LONDON, ELIZABETH.

SPAIN—occupies almost the entire Iberian peninsula in western Europe and is separated from France by Pyrenees mountain. Spain had a directorial form of Government under General Franco, who was the Chief of the State, national chief of the Falangist Party, Prime Minister, Commander-in-Chief and CAUDILLO (leader) of the Empire. Practically, the country was ruled by the Cabinet (appointed by Franco), the National Council of the Falangist Party and to a lesser extent, the CORTES (Parliament). The principal function of the Cortes is the planning and formation of laws without to Franco's veto power. On April 1, 1947,

Franco himself declared Spain a kingdom again. He was to remain Head of the State, and upon his death or incapacity, the Government and a Council of the Realm constituted by the law, would nominate as king "that person of royal blood who is most qualified by right" subject to the approval of the Cortes. In July 1969, Prince Juan Carlos, having such qualifications had been nominated to succeed Franco. In 1973 Franco appointed a Prime Minister. In November 1975, upon Franco's death, Prince Juan Carlos became the King of Spain.

Spain has an abundance of minerals. Industries include cotton, and woollen goods, paper, automobiles, cement and cork, wine-making, etc. AREA—194,883 sq.m. POPULATION—37,350,000. Capital—MADRID. Currency—PESETA. Ports—BARCELONA, BILBAO, VALENTIA, GIJON, CARTAGENA.

SRI LANKA—formerly known as Ceylon it is an island in the Indian Ocean, 31 miles off the southern tip of India. In 1505, the Portuguese landed in Ceylon and founded settlements, eventually conquering much of the island. In 1658, Portuguese rule gave place to Dutch East India Company. Ceylon became a British Crown Colony in 1802. On Feb. 4, 1948, it became a self-governing Dominion within the Commonwealth of Nations. It became a republic within the Commonwealth on 22 May, 1972. All legislative, executive and judicial authority are vested in the National State Assembly. Within the Assembly, the real seat of power is the Cabinet headed by the Prime Minister. The legislature is unicameral. The life of it is six years.

The principal agricultural products are tea, rubber, coconuts, cocoa, rice, cinnamon and tobacco. Sri Lanka now exports more tea than any other country in the world. Minerals and metals include iron, graphite, limestone, quartz and some precious stones. Manufacture include plywood, paper, glassware, ceramics, cement, chemicals, textiles, fertilizers and vegetable oil products. AREA—25,332 sq.m. POPULATION—15,844,700. Capital—COLOMBO. Currency—RUPEE. Ports—COLOMBO, TRINCOMALEE, GALLE.

SUDAN—a republic in North-East Africa. By virtue of the Condominium Agreement between England and Egypt and of the Anglo-Egyptian Treaty of 1936, Sudan was ruled by a Governor-General on the joint behalf of Great Britain and of Egypt. On February 12, 1953, an Anglo-Egyptian Agreement guaranteed to the Sudanese the right to determine their own future and reserve the sovereignty of Sudan until the day of self-determination for the Sudanese. On December 19, 1955, the Sudanese House of Representatives voted unanimously for a declaration for Sudan's complete independence. On January 1, 1956, it was proclaimed a republic and was recognised by both Great Britain and Egypt. But a COUP D'ETAT on November 17, 1958, suspended the Constitution, dissolved the Parliament and set up a Supreme Council of the Armed Forces and a Council of Ministers. In October 1964, a civilian Cabinet was appointed, and after the resignation of President Abboud in the following months, a Supreme Council of State with 5 members, was set up. In May 1969, a second military COUP a Revolutionary Council took power but a civilian premier and cabinet were appointed.

Most part of the country is desert. It is the world's principal source of gum arabic. AREA—967,491 sq.m. POPULATION—22,294,500. Capital—KHARTOUM. Currency—POUND. Port—SUDAN.

SURINAM—is on the north coast of South America. The Netherlands acquired Surinam in 1667 from Britain. In the 1970's the Dutch Government pressured for Surinam's independence, which was scheduled for late 1975. AREA—63,251 sq.m. POPULATION—478,000. Capital—PARAMERIBO. Currency—GUILDERS. Ports—PARAMERIBO, NIEUW-NICKERIE.

SWAZILAND—a kingdom in Africa. After 300 years of British rule achieved independence on Sept. 6, 1966. In 1966, a new Constitution was promulgated and Swaziland was given internal self-government. Under the new Constitution, the Parliament consists of the King, a cabinet headed by the Prime Minister, the Senate and the Legislative Assembly. The Legislative Assembly consists of 50 elected members, 6 members nominated by the King and the Attorney-General.

Swaziland is abundant in natural resources. Reserves of iron ore and asbestos are extensive. Among the agricultural products, cotton, tobacco, oranges, sugar and rice are exported. AREA—6705 sq.m. POPULATION—6,32,600. Capital—MBABANE. Currency—LILANGENI.

SWEDEN—a kingdom in North Europe, occupying the largest portion of the Scandinavian Peninsula. The Government is a constitutional hereditary monarchy. The King holds executive and judicial authority together with the Council of States headed by the Prime Minister.

ister. The Council is appointed by the King, but is responsible collectively to the RIKSDAG (Parliament), which has an upper chamber of 151, elected indirectly for 8 years and a lower chamber of 233, elected directly by popular vote for 4 years.

Sweden has an important source of high-grade iron ore, it is one of the leading exporters of iron ore and cellulose. It also exports lumber, pulp, paper and other forestry products, and is known for its special technical industries (ball bearings and electrical appliances). Chief agricultural products are cheese, butter, beef, pork, wheat, rye, potatoes, sugar beets and vegetable oil. AREA—173,665 sq.m. POPULATION—8,260,691. Capital—STOCKHOLM. Currency—KRONA. Ports—GATEBORG, STOCKHOLM, MALMO.

SWITZERLAND—a federal republic in Central Europe surrounded by France, Germany, Austria and Italy. It is a confederation of 22 cantons. Each has its own legislative, executive and judiciary departments with the right to veto over federal legislation through referendum. The legislative authority vests in a Parliament of two chambers; a STANDERAT (Council of State) of 44 members and a NATIONALRAT (National Council) of 200 members. The executive power is vested in the BUNDERAT of 7 members. The President is selected from membership of the Federal Council, serves for one year, and customarily, is succeeded by the Vice-President. On the basis of international treaties, and guarantees, Switzerland is perpetually neutral. Switzerland enters into no military alliance and is not a member of the U.N. or NATO. It is, however, a member of the various international organisations of the U.N. e.g., W.H.O., I.L.O., F.A.O., U.N.E.S.C.O.; etc. German, French and Italian are the three official languages of Switzerland.

Dairying, stock-raising, watch-making and precision instrument manufacturing are the principal industries; but the biggest business in Switzerland is the tourist industry. AREA—15,941 sq.m. POPULATION—6,480,000. Capital—BERNE. Currency—FRANC.

SYRIA—a republic in the Levant, covering a portion of the former, Ottoman Empire. It is an arid and uncultivated country situated in a fertile oasis. It had been under French mandate since World War I, and became an independent republic during World War II. The partly U.S.-type Constitution was passed in 1950. It joined Egypt on Feb. 1, 1958 to form United Arab Republic. Syria seceded from U.A.R. on September 28, 1961 as a result of a coup d'etat.

Following another COUP on March 8, 1963, Syria was governed by a Ministerial Cabinet directly responsible to the National Council of the Revolutionary Command. On Feb. 23, 1966, the Government was again overthrown by another COUP D'ETA.

Chief exports are cotton, barley, wheat, fruits, vegetable, meat, textiles and wool. Main industries are flour milling, oil refining, textiles, cement, tobacco, glassware, sugar and brassware. AREA—71,498 sq. m. POPULATION—10,314,100. Capital—DAMASCUS. Currency—POUND. Ports—LATAKIA, TARTUS.

TANZANIA—Tanganyika, the mainland part of the United Republic of Tanzania (Tanganyika and Zanzibar), occupies the east-central portion of the African continent. It has coastline of about 500 miles and an area of 362,688 sq. miles. Formerly ruled by the Sultan of Zanzibar, and a British Protectorate until Dec. 10, 1963, ZANZIBAR consists of the islands of Zanzibar and Pemba, Lamu, Manda, Patta and Siu. It has a total area of 1,020; sq. m. Zanzibar became internally self-governing on June 24, 1963, and fully independent on Dec. 10, 1963. A revolutionary party seized power on Jan. 12, 1964, and the Sultan was forced to leave the country. Following a constitutional conference held in Dar-es-Salaam in March 1961, Tanganyika became an independent State and a member of Commonwealth on Dec. 9, 1961. It became a republic on December 10, 1962. On April 25, 1964, following a parliamentary ratification of an agreement signed by the President of the Republic of Tanganyika and the President of the People's Republic of Zanzibar and Pemba, Tanganyika united with Zanzibar to form a new sovereign state. Zanzibar has separate legislature which legislates for matter which are not under the Union Government. The chief commercial crops are clove, clove oil, tea, tobacco, sisal, cotton, coffee and oil-seeds. The most important minerals are diamonds, gold, tin, lead and mica. Hides and skins are other valuable items of export. AREA—364,708. POPULATION—21,276,900. Capital—DAR-ES-SALAAM. Currency—SHILLING. Ports—DAR-ES-SALAAM, TANGA.

THAILAND—a sovereign independent State in S.E. Asia between Burma on the west Laos and Kampuchea (Cambodia) on the east.

Thais began migrating from Southern China in the 11th century. King Mongkut and his son King Chulalongkorn ruled from 1851 to 1910. The country went a bloodless revolution in

1932, which established a limited monarchy. Japan occupied the country in 1941. A military-civilian junta took over the country in Nov. 1971. In Oct. 1973 it was overthrown by civilians. The military resumed control in a bloody 1976 coup.

Agriculture occupies more than 91 p.c. of the population. The chief crop and the principal earner of foreign exchange is rice. Other important products are rubber and timber. Tin ore is the important mineral in the country. AREA—198,455 sq. m. POPULATION—52,020,100. CAPITAL—Bangkok. Currency—BAHT. Ports—BANGKOK, SATTAPHI.

TOGO—a republic occupying a narrow strip of territory running north from a short coastline on the Gulf-of-Guinea and lying between Ghana on the west and Benin on the east. Formerly a part of the German colony of Togoland, surrendered in 1914, it was administered by France as a U.N. trusteeship territory between 1946-60. On November 14, 1958, the U.N. voted for the establishment of an independent State. Accordingly, the Republic of Togo was set up on April 27, 1960. The U.S. modelled Constitution, adopted on March 20, 1961, provided for a President and a 46-members unicameral Parliament, the National Assembly; but it was suspended following a COUP on Jan. 13, 1963. A new Constitution came into force and a fresh Assembly elected on May 5, that year. All-civil, political and military powers in Togo were taken over on January 13, 1967 in COUP D'GRACE by the Army led by Lt. Col. E. Eyadema. AREA—21,853 sq.m. POPULATION—2,350,000. Capital—LOME. Currency—CFA FRANC. Port—LOME.

TONGA, KINGDOM OF—this kingdom consists of some 150 islands and islets known as the Friendly Islands. Formerly it was under British supremacy and became independent in June 1970. The Government consists of a King, a Prime Minister and partly elected Legislative Assembly. Tonga was united by Tausa'ahau Tupou in 1845. By the Anglo-German agreement of 1899 the Tonga islands were left under the protectorate of British. A British Agent and Council was appointed in 1900. The population is mainly of polynesian stock but darker and perhaps related to the Maoris of Australia. AREA—269 sq. m. POPULATION—100,000. Capital—NUKALOFA. Currency—PALANGA. Port—NUKALOFA.

TRINIDAD & TOBAGO—These two islands belonging to West Indies group gained independence from British rule on Aug. 31, 1962 and became 15th Commonwealth Nation. It became a Republic on August 1, 1967. TRINIDAD is only 7 miles away from the coast of Venezuela on the Atlantic. It was discovered by Columbus in 1498. was colonized in 1532 by the Spaniards and was ceded to Britain on March 25, 1802. TOBAGO lies about 19 miles north-east of Trinidad. It was ceded to the British Crown in 1814 and amalgamated with Trinidad in 1888. Oil is the principal export from these islands. AREA—1,979 sq.m. POPULATION—1,060,000. Capital—PORT OF SPAIN. Currency—DOLLAR. Port—PORT OF SPAIN.

TUNISIA—lies on the Mediterranean coast of Africa between Algeria and Libya and extends southwards to the Sahara. Formerly a French protectorate, Tunisia became independent on March 20, 1956. On July 25, 1957 the Constituent Assembly voted to abolish the monarchy and proclaimed a republic. On June 1, 1959 a new Constitution was adopted. Vine and olive, are extensively cultivated. The chief exports are cereals, olive oil, phosphates, iron ore, wines. AREA—63,378 sq.m. POPULATION—7,190,860. Capital—TUNIS. Currency—DINAR. Ports—TUNIS, SFAX BIZERTE.

TURKEY—a republic of Asia and Europe since 1928. The European territory was reduced to the city of Constantinople and a narrow strip of country around it. It is 9,254 sq.m. in area and is separated from Asia by the Bosphorous and Dardanelles. The Turkey in Asia has 285,246 sq.miles of area and 90 p.c. of the population. The Turkish State is defined as 'republican, nationalist, popular, etatist, secular and revolutionary'. The President is chosen from the Deputies of the National Assembly, his term of office being identical with the life of each Assembly. The Democratic Party was ruling the country so long, but on May 4, 1960, this Party was overthrown by the Turkish Armed Forces, which ruled through the Committee of National Union up to July 9, 1961, when under a revised Constitution, a civilian parliamentary government was established. The new Constitution provides for a bicameral legislature, National Assembly, composed of a Senate of 172 Senators and an Assembly of 450 Deputies. The President is elected by Parliament for a 7-year term.

About 80 p.c. of the population depends on Agriculture. The country has considerable yet unexploited mineral wealth. It is the largest producer of chrome in the world. AREA—301,380 sq.m. POPULATION—44,130,000. Capital—ANKARA. Currency—LIRA. Ports—ISTANBUL, IGNIR, HERSIN, SAMSUN.

TUVALU—The Ellice Islands separated from the British Gilbert and Ellice Islands Colony, 1975, and became independent Tuvalu on Oct. 1978. Its only cash crop is copra. **AREA**—10 sq.m. **POPULATION**—8,200. **Capital**—FUNAFUTI. **Currency**—AUSTRALIAN DOLLAR.

UGANDA—lies in East Central Africa to the West of Kenya with Sudan on the north and Republic of Congo on the west. Formerly a British protectorate, Uganda became an independent State within the Commonwealth on October 9, 1962 and republic on October 9, 1963. The country is comprised of 4 provinces. National Assembly consists of the Speaker and 92 members. On February 22, 1966, Dr. Milton Obote, the Prime Minister assumed full powers of the Government and on Feb. 24, announced the abolition of the posts of the President and Vice-President, and on April 15 declared himself President under a new Constitution. He was ousted in a COUP D'ETAT on Jan. 25, 1971, and Gen. Idi Amin seized control and became president of the country. Gen. Idi Amin was later dethroned. Uganda is the largest coffee producer in the Commonwealth. **AREA**—91,134 sq.m. **POPULATION**—15,985,200. **Capital**—IMPALA. **Currency**—SHILLING.

UNION OF SOVIET SOCIALIST REPUBLICS (USSR)—a federal State in East Europe and in North and West Central Asia. The USSR emerged as a political entity under the leadership of Lenin after the Russian Revolution of 1917 and the downfall of the empire in Russia. It was proclaimed formally in 1922, after a confused interim period of civil war with Poland (1920), the first State basing its Constitution on Marxist communism.

The Union of Soviet Socialist Republic is composed of 15 Republics—Russia, Ukrainian, Byelorussian, Aberbaidjan, Georgian, Armenfan, Kazak, Turkmenian, Kirghiz, Tadjek, Uzbek, Estonian, Latvian, Lithuanian and Moldavian Soviet Socialist Republics. It is the largest country in the world, stretching across two continents (Europe and Asia) from the North Pacific to the Gulf of Finland. The territory of USSR, one-sixth of the earth's land surface, contains every phase of climate except the distinctly tropical and a varied topography.

The Constitution, adopted on December 5, 1936, provides that the highest organ in the USSR's the Supreme Soviet consisting of two equal Houses; that members thereof shall be chosen on the basis of universal, equal and direct suffrage by secret ballot for a term of 4 years; that regular sessions of each body shall be held twice each year; that there shall be a President of each House; that there shall be a Presidium of the Supreme Soviet, which shall consists of a President, 15 Vice-Presidents (One Vice-President for each constituent republic of the Union), a secretary and 16 members; that the Presidium shall act as an executive and directive body between the session of the Supreme Soviet. The highest judicial organ is the Supreme Court, whose members are elected by the Supreme Soviet for a 5-year term. The highest executive and administrative organ of State power is the Council of Ministers appointed by the theoretically responsible to the Supreme Soviet.

The USSR is probably the richest country in the world in mineral resources, containing deposits of almost every known mineral. It rank, among the top producing nations in oil, chromite, iron ore, petroleum, gold, copper, manganese, aluminium, platinum, asbestos, salt and other products. The richest mineral region is that the Ural mountains. Forests are considerable source of wealth. **AREA**—8,647,250 sq.m. **POPULATION**—258,700,000. **Capital**—MOSCOW. **Currency**—RUBLE. **Ports**—LENINGRAD, ODESSA, MURMANSK, KALNINGRAD, ARCHANGELSK, RIGA, VLKADIVOSTOCK.

UNITED ARAB EMIRATES—formerly known as the Trucial States or Trucial Sheikdoms, were British Protected States until they became an independent nation on Dec. 2, 1971. **AREA**—32,278 sq.m. **POPULATION**—1,291,860. **Capital**—ABU DHABI. **Currency**—DIRHAMS. **Ports**—DUBAI, ABU DHABI.

UNITED KINGDOM—see Great Britain.

UNITED STATES OF AMERICA—a federal republic of North America, extending from the Atlantic to the Pacific and from Canada to Mexico, with outlying areas in Alaska, Puerto Rico, Hawaii, Guam and other Pacific islands. The USA consists of 50 States and the Federal District of Columbia. It has a Federal Government which is based on the seperation of powers—the President, the House of Congress and the Supreme Court, being resigned to balance and restrain each other—hence the famous concept of "checks and balances". Each State is self-governing in local matters, but confides to the Federal Government the control of foreign affairs and the army and navy. Police, education, public health, etc. remain within the scope of the individual States. The capital is Washington which belongs to no State and is administered directly by the Federal Government. Executive power is vested in the President elected by

popular vote every 4 years and is eligible for re-election to one additional term. He chooses the members of the Cabinet, who are not (as in England) members of the legislature. Legislative power is vested in the Congress, composed of two houses; the Senate with 2 members from each State, elected to serve for 6 years and the House of Representatives composed of a number of members varying according to the census, elected for 2 years. There is adult suffrage. The third main component of the Constitution is the Supreme Court at Washington. AREA—3,026,789 sq.m. POPULATION—216,820,000. Capital—WASHINGTON. Currency—DOLLAR.

UPPER VOLTA—an island State in West Africa between Niger and Benin on the east, Togo, Ghana and Ivory Coast on the south and Mali on west. Upper Volta was annexed by France in 1896. It decided on Dec. 11, 1958 to remain an autonomous republic within the French Community. Full independence was proclaimed on August 5, 1960. It elected to remain outside the French Community but maintains close ties with France. The Constitution, adopted on Nov. 27, 1960 provides for a presidential form of government and a unicameral National Assembly. More than 90 p.c. of the people are subsistence farmers. Greatest wealth is in livestock, mostly cattle and sheep. AREA—105,869 sq.m. POPULATION—6,320,000. Capital—OUAGADOUGOU. Currency—CFA FRANC.

URUGUAY—the smallest and one of the most advanced republic in South America on the South Atlantic coast. The Constitution of 1952 (March 1) provides for a Chamber of Deputies and a Senate elected for a 4-year term. There is a 9-man coalition Executive Council elected for 4 years, its leadership rotating annually among the 6 majority members. The Council chooses 9 departmental ministers. Chief products are meat, wool, hides, corn, wheat, citrus fruits, rice, oats and linseed. AREA—68,536 sq.m. POPULATION—2,850,000. Capital—MONTEVIDEO. Currency—PESO. Port—MONTEVIDEO.

VANUATU—AREA—14,76 sq.m. POPULATION—141,400. Capital—VILA. Currency—VATU.

VATICAN CITY—an independent sovereign State created by the Treaty of 1929, of which the Pope is the head. It lies in the Heart of Rome and includes Vatican Palace, the Pope's official residence and the basilica and square of St. Peter's. The immediate Government of the State of Vatican City is in the hands of a Governor. He is assisted by a Councillor-General and by a number of offices. There is no political party and no Parliament. AREA—108.7 acres (0.17 sq.m.). POPULATION—About 1,000. Currency—ITALIAN LIRA.

VENDA—Granted independence by South Africa on Sept. 13, 1979, Venda has been unable to gain recognition for its sovereignty from other nations. AREA—2,467 sq.m. POPULATION—328,820. Capital—THOHOYANDOU.

VENEZUELA—is the northernmost State of South America on the Caribbean Sea coast. The present Constitution of 1961 provides for a strong Central Government, a President elected for 5 years by direct universal vote, a Senate and a Chamber of Deputies, and a Supreme Court. Mining, agriculture and stock-raising are the chief industries. Venezuela ranks high in the production of petroleum. Coffee is the major agricultural products. AREA—352,143 sq.m. POPULATION—14,740,000. Capital—CARACAS. Currency—BOLIVAR. Ports—MARACAIBO, LA GUAIRA, PETRO CABELLO.

VIETNAM—A South-East Asian republic, divided into the two zones after the second world war, united itself in April 1975. Rice, grains, sugar, coffee, tea, fruit, cotton, rubber and chief agriculture products. Chief ports-Haiphong and Saigon (renamed Ho Chi Minh City). AREA—129,623 sq.m. POPULATION—51,423,000. Capital—HANOI. Currency—DONG. Ports—SAIGON, HAIPHONG, DA NANG, CAM RAPH.

YEMEN, ARAB REPUBLIC OF—occupies the south-west corner of Arabia between Saudi Arabia and Aden protectorate. It became a republic in Sep. 1962. AREA—75,289 sq.m. POPULATION—7,080,000. Capital—SAANA. Currency—RIAL. Ports—AL-HUDAYDAH, AL-HUKHA.

YEMEN, PEOPLE'S DEMOCRATIC REPUBLIC OF—became independent on Nov. 30, 1967. AREA—112,000 sq.m. POPULATION—1,80,000. Capital—ADEN AND MEDING AS-SHAAB. Currency—DINAR. Port—ADEN.

YUGOSLAVIA—is a republic of S.E. Europe in the Balkan Peninsula and is a federation comprising the People's Republic of Serbia, Croatia, Solvinia, Bosnia-Herzegovina, Macedonia and Montenegro. Under the 1953 Constitution, Yugoslavia became a federal republic. It is governed by the President and the federal Executive Council, a committee of Parliament, numbering 34 to 36. The bicameral Parliament (SKUSHITINA) consists of the Federal Council

and the Council of Producers, with deputies representing the constituent republic and organized economic groups. A new Constitution was approved by Parliament on April 7, 1963, which empowered Marshall Tito to remain President for life, made the country's official name the Socialist Federal Republic of Yugoslavia and provided that future Presidents be elected by Parliament and restricted to two consecutive 4-year terms.

Yugoslavia became a confederation consisting of 6 sovereign states and 2 autonomous provinces on June 30, 1971. Thus it became the first country in modern history to change from a strictly centralised State into a confederation.

The constitutional amendments adopted by Federal Parliament transferred the States and autonomous provinces wide power until then concentrated with federal authorities. Foreign policies and the army remained in the hands of the Federal Government, but in these matters, like in some other which remained in Federal hands, in all major issues, unanimous approval of all States is required.

In the framework of the changes, post of President of the Republic is also changing. President Tito's proposal to introduce a collective Presidency to run the country has also been adopted.

Yugoslavia is a predominantly industrial country. The main agricultural crops are wheat, and maize. AREA—98,766 sq. m. POPULATION—22,720,000. Capital—Belgrade. Currency—DINAR. Ports—RIJEKA, SPLIT DUBROVNIK.

ZAIRE—A former Belgian colony in Equatorial Africa, Congo became independent on June 30, 1960. The new nation was, however, torn by widespread violence and pillage begun by mutinous Congolese soldiers and extremist. Katanga, the largest and richest province, proclaimed on July 11, 1960, secession from the Republic under Premier Moise Tshombe. But it failed to obtain international recognition. Katanga did not come under the Government at Leopoldville until Jan. 14, 1963. In Sept. 1963, Parliament was recalled to sit as a Constituent Assembly but failed to make any progress. Mr. Tshombe who went on exile, returned to Leopoldville in June, 1964 and formed a Coalition Government of 11 members on July 10. But on Oct. 13, 1965, President Kasavubu dismissed him from premiership and appointed Everette Kimba in his place. Mr. Kimba's government failed to get a vote of confidence in the Parliament on Nov. 14. On Nov. 25, General Mobutu of the Congolese army deposed President Kasavubu in a bloodless COUP, seize power for himself and declared himself the President for next 5 years. On Oct 26, 1966, he also assumed the office of the Prime Minister.

Much of the land is covered by tropical rain forest. Wild life is abundant. Palm oil is the main agricultural cash product, followed by rubber, largest producer of industrial diamonds and cobalt. Other minerals are gold, silver, tin, zinc, iron, copper, tungsten, manganese, uranium, radium etc. AREA—950,693 sq.m. POPULATION—30,801,900. Capital—KINSHASA. Currency—ZAIRE. Ports—MATADI, BOMA.

ZAMBIA—formerly known as Northern Rhodesia, Zambia lies on the plateau of Central Africa. It became an independent republic on Oct. 24, 1964. It is a member of the Commonwealth. The executive power rests with the President, elected by the Legislative Assembly, which consists of 75 elected members and 5 members specially nominated by the President. AREA—280,724 sq.m. POPULATION—6,540,720. Capital—LUSAKA. Currency—KWACHA.

ZIMBABWE—Britain took the area as Southern Rhodesia in 1923 from the British South Africa Co. and granted internal self-government. Under a 1961 constitution, there was a Governor representing the British Crown, a Prime Minister and Legislative Assembly with voting restricted to maintain Whites in power. On Nov. 11, 1965 Prime Minister Ian D. Smith announced his country's unilateral declaration of independence. Britain termed the act illegal. The British Government imposed sanctions, including embargoes in oil shipment to Rhodesia, which were backed by most nations. In May 1968, the U.N. Security Council ordered a complete trade and travel blockade against Rhodesia. In 1969, Rhodesia declared herself a republic. In the country's first universal franchise election after a series of events and negotiations and rejection by other party Bishop Abel Muzorewa's party gained a bare majority control of the black-dominated parliament. Rich farm-lands and mineral deposits are the mainstays of the economy. AREA—150,333 sq.m. POPULATION—7,691,000. Capital—HARARE. Currency—ZIMBABWE DOLLAR.

POLITICAL INFORMATION

ABDICATION—usually means the renunciation of the royal office by a sovereign; the act may be voluntary or forced by circumstances.

ACTIVIST—those, in a political movement, who insist on talking active and vigorous steps towards their objectives rather than merely putting forward a programme.

ADJOURNMENT—suspension of a sitting of a legislative body, either by the speaker or on the demand of the majority members of the house. A house is adjourned automatically if a quorum of members is not present.

AGENT PROVOCATEUR—a French term for a political agent sent during political or social conflicts into the adversary's ranks to provoke in the guise of an adherent, incidents and compromising actions.

ALIEN—one belonging to another country and not enjoying the rights of citizenship.

AMNESTY—pardon granted by a sovereign or the government of a State of an offence, especially one of a political character.

ANARCHISM—a political doctrine which holds that every form of a government is evil. The anarchists want to do away with all forms of State and government and substitute for them free association of individuals or groups, without any coercive organisation without written law, police, courts, prisons or armed forces.

ANTI-SEMITISM—means opposition to the Jewish race. The movement appears to be based on economic rather than on religious or political cause. It started in Russia and Hungary with the programmes of 1882 and gradually spread south westward to France. During the World War II the indiscriminate mass massacre of the Jews by the Nazis and their accomplices led to a big exodus of the community to different parts of the world and finally to the creation of the state of Israel.

APARTHEID—is a South African word, meaning "apartness", the separation of the Blacks from Whites in South Africa. The process is also known as segregation (literally, separated from the Blacks). It affects the movements of non-Whites, restricting their choice of residence, occupation and marriage, and their property. It is today the policy of the governing National Party of South Africa.

APPEASEMENT—a policy of making concessions to an aggressor (originally that of Neville Chamberlain in 1938-39).

ARMISTICE—cessation of hostilities by mutual agreement between belligerents. It may be temporary for the purpose of removing the wounded or burying the dead or preliminary to a general peace.

AUTARKY—the idea that a country should produce everything it requires and cut down foreign imported goods. It gained considerable impetus after the World War I.

AUTONOMY—in its political sense, means limited self-government short of independence. The objective test of autonomy is recognition that the group may legislate for itself.

AUTHORITARIANISM—a dictatorial form of government, now a word used generally to condemn high-handedness of a person or a party in power.

BALANCE OF POWER—the principle of maintaining an equality of strength between countries or group of countries so that no single country or group becomes too powerful for the safety of the others.

BICAMERAL SYSTEM—a form of government which consists of two separate Houses of Chambers and in which the concurrence of both is necessary to the enactment of legislation, adopted to act as a check upon hasty, or ill-considered legislation.

BLITZ—a quick, violent, campaign intended to bring speedy victory, intensive air-attack, short for BLITZKRIEG, a German word.

BLOC—an association of legislative members or of political parties or group formed to support a certain measure or ministry.

BLOCKADE—a term used in international law for the prevention of goods entering or leaving an enemy country by land or sea. Neutral States are affected most by a blockaded country, their cargoes are liable to be confiscated by the blockading force.

BLUE-BOOK—popular name for an official report, statistical or other government publication which, because of its bulk, is provided with a blue cover of stouter quality than the inside pages.

BOLSHEVISM — radical trend in the Russian social democracy which later developed into a system of totalitarian dictatorship. The Bolsheviks accept the doctrine that an irreconcilable antagonism exists between the propertied class or bourgeois and the propertyless workers. It invites as inevitable and necessary class war, the object of which is to establish a dictatorship of not a single person but of a whole class — the working class. This stage is however, only a preparation for a total classless society governed according to communist principles. (See also COMMUNISM).

BONAPARTISM — high political ambition of top military officials.

BOURGEOIS — a French word for the 'citizen class', a term used by Marxist socialists to mean industrialists, merchants and people with a business of their own, as opposed to the proletariat who earn a living only by selling their labour.

BRAINWASHING — forceable replacement of one set of political ideas by another set, specially through indoctrination under duress and persistent psychological pressure.

BUFFER STATE — a small State established or preserved between two bigger belligerent States to either prevent direct clashes between them or make hostilities less probable.

BUREAUCRACY — a government by an elaborate system of administrative departments and officials, which generally tends to become unwidely and labourious in its operation. It produces red-tapeism or over-systematization. Its most frequently charged defects are rigidity, conservatism and spirit or routine.

CABINET — a private room in which confidential advisers of a sovereign or chief minister of a State meet, group of advisers or ministers. Now generally means a Council of Ministers.

CAPITALISM — the economic system, founded on free enterprise and private ownership of the means of production and distribution of goods.

CASTING VOTE — vote given by a person presiding at a meeting of a body of which he is a voting member, in the event of the members being equally divided on an issue; therefore, the deciding vote.

CIVIL DISOBEDIENCE — non-violent political campaign refusing to co-operate with a government or to abide by its laws.

COLD WAR — a struggle between two countries or groups of countries waged by use of political and economic strategy, propaganda and other measures short of armed combat.

COLONY — a territory permanently settled by people from another land. A measure of internal self-government may be granted to a colony. It may then become responsible for its own social policy — labour, education or housing. But the mother country or colonial power still maintains the right to veto (forbid) acts passed by the local government.

COMMUNISM — the theory, as expounded by Marx and Engels, aims at the certain of a society in which the private ownership of land, factories, banks, trading houses, etc. is abolished and everyone receives what he needs and works according to his capacity. Communists believe that revolution and the use of force are justified to bring about the creation of such a society.

CONDOMINIUM — a territory, the responsibility over which is shared by two administering powers.

CONFEDERATION — a free association of sovereign states united for some common specific purposes.

CONSCRIPTION — a compulsory enlistment for military service of all able bodied men.

CONSTITUENT ASSEMBLY — an assembly convened for the purpose of drawing up a constitution, but it comes only — and this is the vital point — after there is a breakdown in the existing machinery of government and a change has been brought about in the STATUS QUO.

CONTRABAND — goods or merchandise, the import or export of which is forbidden; in wartime applied specially as between neutrals and belligerents.

CORRIDOR — a strip of the territory of one State running through that of another, usually to give access to the sea.

COUP D'ETAT — a violent change in the government of a country carried about by force or illegally by a group of relatively minor authority; also, bold measures of a government to prevent supposed or actual danger.

DEMOCRACY — a form of government in which sovereign power resides in the people as a whole and is exercised either directly by them or by their elected representatives.

DETENTE — a term used to express a peaceful working relationship between two opposite camps.

DIALECTICAL MATERIALISM—a philosophy propounded by Marx, Engels and Lenin, which asserts the primacy of matter over mind and according to which all development is the outcome of the struggle between inherent contradictions in matter. When applied to society the philosophy is called historical materialism.

DICTATORSHIP—rule by one man who, in deciding what to do about internal or external affairs of the country he controls, does not have to consider or consult anyone but himself.

DIPLOMACY—management of international relations by negotiations, skill in conduct of international intercourse.

DOLLAR DIPLOMACY—a nickname for the foreign policy U.S.A. for expanding American financial and commercial interests abroad under the guise of promoting international friendship.

DOSSIER—set or bundle of documents relating to a particular persons or happening.

ELECTORAL COLLEGE—any body of limited in number, meeting in one place to choose a public official.

EMBARGO—order forbidding ships of foreign country to enter or leave ports of a country, either as precaution, or with an intention for hostilities.

ESPIONAGE—a French word which expresses more than the English word 'spying', it implies an organised system.

EXTRADITION—surrender of a fugitive from justice by one country or State to the authorities of another to which he belongs.

EXTRA-TERRITORIALITY—a legal fiction that foreign diplomats and diplomatic agencies are outside the country of residence in spite of physical presence. Embassies, etc. form foreign islands, so to speak, within the territory of a State. They are not subject to its laws.

FASCISM—a system of government which denies all fundamental rights of its citizens and establishes one—men rule who is accepted as infallible.

FEDERATION—a system of Government in which smaller States or the provinces of a State, hand over certain powers, such as foreign policy, defence, tariff to a Central Government, while controlling over some parts of their internal affairs.

FIFTH COLUMN—secret supporters of an enemy engaged in sabotage or other subversive activities within defence lines.

FILIBUSTER—an obstructionist in legislative bodies.

FRANCHISE—right to vote in parliamentary election.

GALLUP POLL—a system of testing public opinion on topical subjects, introduced by Dr. Gallup of the U.S.A.

GENOCIDE—a calculated attempt to exterminate systematically a racial, religious or political group, also, an effort to destroy the language, religion, or culture of a group.

GUERRILLA—sporadic warfare against a regular army by hands of irregular troops, usually by the inhabitants of an invaded country.

IMPERIALISM—the policy of empire-building and conquests transcending national frontiers. It now means every policy of conquest and colonial expansion. Since the World War I imperialism has more frequently taken the form of economic penetration than of political domination.

INTERNATIONAL LAW—body of rules regarded by the nations of the world as being binding on them in their relations with each other, in peace and war.

INTERNATIONALS—the socialist movement in which socialists from many countries are united. There have been four such Internationals, and each has held several congresses. The **FIRST INTERNATIONAL** accepted a programme drawn up by Karl Marx and lasted from 1866 to 1874. The **SECOND INTERNATIONAL** in which there was trade union elements, was organised in 1889 in Paris to celebrate the 100th anniversary of French Revolution. It sought to compass the aims of socialism by constitutional, not revolutionary action and it held several congresses between 1889 and 1930. The **THIRD INTERNATIONAL** was organised in Moscow in 1919 by the delegates from 12 countries to promote communism and support the Russian Revolution. It was dissolved in 1943. It declared in favour of establishing communism by force. The **FOURTH INTERNATIONAL** was founded in 1936 by the followers of Trotsky.

IRON CURTAIN—a barrier created by such means as censorship and prohibition of free travel to isolate Russian-controlled territories from outside contacts, hence, any similar barrier against communication.

LAME DUCK—members of the legislature who fails to get re-elected but continue to function as legislators until the new legislature meets. The term was used in the United States.

LEND-LEASE—the system of lending and leasing supplies and installations to each other, developed by the Allies in the World War II. It was started by President Roosevelt.

MARXISM—the socialist doctrine following the theories of Karl Marx. His ideas are that all wealth is produced by the labour and should go to it. The labour is deprived of its fruits by the capitalists; so the workers must prepare for class war in which capitalism will be destroyed.

MCMAHON LINE—the Indo-Chinese border line, drawn in 1914 at a British-Tibetan-Chinese Conference and named after a British administrator. Communist China, which has absorbed Tibet, repudiated the McMahon Line as delimiting her border with India. India insists that it is a legitimate and legal border-line.

MORATORIUM—a legally or officially determined period during which no business engagements are completed or debts or liabilities enforced. It is declared by the government in time of a financial crisis.

NATIONALIZATION—taking management by the State of trades, industries, etc., with or without compensation, i.e. changes from private to State ownership and control.

NATURALIZATION—a progress by which an alien of a state becomes its citizen. Generally when an alien lives in a state for a certain period, he can—if he so wishes and the State agrees—become a citizen of the State.

NEUTRALITY—in international law, non-participation by a State in a war between other States and maintenance of an impartial attitude in its dealings with the belligerents, with the recognition of this impartiality by the belligerents.

NON-AGGRESSION PACT—a treaty between two or more States pleading each not to attack the other and to settle their disputes by negotiation or arbitration.

ORDINANCE—that which is ordained by authority. Ordinance is an act promulgated by the Head of a State when the legislature is not in session. It has to be approved by the legislature within a specific period.

OSTPOLITIK—West Germany's policy of rapprochement with Communist East Europe.

PACIFISM—opposition to war or military force in any form. Pacifists believe that all international disputes should be settled by arbitration. Various movements towards world peace are not necessarily wholly pacifistic, as they often advocate defensive war and oppose only aggressive war.

PLEBISCITE—a direct vote by the voters of a country or a district on a specific question. In the usual election, the people vote for or against the government on all the policies for which it stands, in a plebiscite or referendum, they vote only on one particular question.

PLURAL VOTING—the system of allowing a person to cast more than one vote in the same election. The voter is eligible to vote in more than one constituency by virtue of its special position, i.e., a city and a university vote by the same person.

POLITBUREAU—short for POLITICAL BUREAU, which is the leading body of communist parties. The Politbureau of the communist party of Soviet Union is regarded by many as the real government of Russia. Every communist party in whatever country has a Politbureau.

PRIVILEGES, PARLIAMENTARY—"The sum of peculiar rights enjoyed by each House collectively as a constituent part of the High Court of Parliament, and members of each House individually, without which they could not discharge their functions and which exceed those possessed by other bodies or individual." —ERSKINE MAY.

PRIZE COURT—a court of law set up in time of war decide whether a ship and its cargo, captured by the navy is a lawful prize or not. If it is decided that a captured ship is an enemy property or a cargo is contraband, they are sold and the proceeds thereof are distributed among all members of the navy at the end of the war.

PROLETARIATE—the wage-earning class of a community collectively, i.e. property-less class depends on the sale of labour power and having reserve of capital. According to Marxism, the proletariat is opposed to, bourgeois, the employing class, and will eventually overthrow it.

PROPORTIONAL REPRESENTATION—the method used in an election by which the votes are so counted that each party has representation in the elective body in proportion to its strength, so as to ensure the representation of minorities.

PROTOCOL—the rough draft of a diplomatic document, on which diplomatic transactions tentatively commence.

QUISLING—local traitors, named after Norwegian traitor, Major Quisling, who betrayed his country to the Germans, especially those quietly prepared the way for Germany to her neighbouring countries.

QUORUM—the minimum number of members required to be present to permit business to be transacted.

RESIDUARY POWERS—in a federal constitution where the powers are divided between the federal Centre and the federating State or units under a system of three lists—federal, state or provincial and concurrent, the powers relating to new spheres or administration not covered by any of the three lists are known as **RESIDUARY POWERS**.

SABOTAGE—at first, this word was confined in its meaning to malicious waste or destruction of an employer's property by workmen, as a means of enforcing demands in labour disputes. Now, it is being applied more broadly to define any deliberate crippling or destruction of property, especially as practised by foreign agents or sympathisers for the purpose of demolishing military equipment and installations.

SANCTIONS—coercive measures taken to ensure fulfilment of international treaty obligations. Sanctions were provided in the Covenant of the League of Nations against countries resorting to, war in defiance of the Covenant, U.N. Charter also provides for sanction, though it does not use the word 'sanctions'.

SATYAGRAHA—passive resistance to a government non-violent civil disobedience, a policy adopted by Mahatma Gandhi in India.

SCORCHED EARTH—a wartime policy of destroying all resources and means of sustenance when defending forces have to withdraw before the invaders.

SOCIALISM—a political and economic theory that advocates all key industries, commerce and important national services like health and education to be put under state control.

SPLINTER GROUP—in politics, a group of dissidents broken away from a large political party, original organisation, etc.

TOTAL WAR—denotes the present form of war in which the distinction between combatants and non-combatants is fast disappearing.

TOTALITARIAN—a belief in the complete centralization of government control under one political group and suppression of other parties.

TRUSTEESHIP—administration by a member of the United Nations of a territory not yet ready for self-government.

ULTIMATUM—final statement of demands, rejection of which by opposite party is assumed to lead at once to rupture of friendly relation and to declaration of war.

UNDERGROUND—organised, secret resistance movement against a government or force in power.

UNILATERAL ACTION—action taken by one party to an agreement without consulting the other parties in international affairs.

VETO—prohibition of proposed or intended act, exercise of constitutional right to forbid passing or putting in force of an enactment or measure. In the United Nations, only the five permanent members out of the 16 members of the Security Council have the power to veto, which prevents a decision being taken even if every other members is in favour of it.

WELFARE STATE—a State that by its concern with public health, insurance against sickness and unemployment and similar measure, assumes a large share of responsibility for the welfare of its citizens.

WHIP—a member of a political party responsible for ensuring the presence of his party members at voting time and for holding them in line with the party policy.

POLITICAL PLANS, TREATIES, CONFERENCES ETC.

ANZUSTREATY—was signed in San Francisco on September 1, 1951, under which members acknowledge that "an attack in the Pacific against any will involve all and agree to act to meet the common danger." Members are: U.S., New Zealand and Australia.

ARAB LEAGUE—Arab States formed a Union by a pact signed at Cairo on March 22, 1945, for the purpose of maintenance of Arab solidarity. The League consists of Algeria, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Saudi Arabia, Sudan, Syria, Tunisia, Egypt and Yemen. The League has customs and payments agreements, and maintains a total boycott of Israel.

ASSOCIATION OF SOUTH EAST ASIAN NATIONS (ASEAN)—Indonesia, Singapore, Thailand, Malaysia and the Philippines have made a security arrangement of their own and formed this Association in 1967. They wanted to establish an orderly, peaceful, politically and economically stable condition within each individual territory free from any subversive elements and infiltration.

ATLANTIC CHARTER—Declaration of 8 common principles in the national policies of the U.S.A. and Great Britain, drawn up at a conference in mid Atlantic on August 14, 1941 by Churchill and Roosevelt and endorsed by other nations then at war with Germany, Italy and Japan. It states: (1) No aggrandisement, territorial or other; (2) No territorial changes without expressed wish of the people immediately concerned; (3) Right of all people to choose their own form of government; (4) Easing of restrictions on trade, and access to raw materials of the world; (5) Fullest collaboration among all nations in economic field; (6) Future peace must ensure freedom from want and fear; (7) Future peace must guarantee of freedom of seas; (8) Aggressor nations must be disarmed pending the establishment of a general security system. It was announced on September 15, 1941, that 15 nations (including the USSR) fighting the Germans and the Italians had endorsed the charter.

BENELUX—is the combination of three countries—Belgium, Luxemburg and the Netherlands, which have established a complete Customs Union among themselves. No longer are there any tariff barriers between the three countries. Benelux became effective on October 29, 1947.

CENTRAL TREATY ORGANISATION—is the outgrowth of the Baghdad Pact which set up the Middle East Defence Organisation. CENTO was formed on August 21, 1959, after the secession of Iraq, one of the five original members of MEDO, on March 24, 1959. Members are: U.K., Turkey, Iran, Pakistan and United States. Although it inspired the pact, the U.S.A. became a full member only on July 28, 1958. The pact's purpose is to provide shield on the northern tier of the Middle East against Soviet penetration. Its headquarters is at Ankara.

COLOMBO PLAN—effective from July 1, 1951, it was a six-year plan of economic aid to South and S.E. Asia agreed on at the British sponsored Conference at Colombo in January 1950 by Australia, Canada, Sri Lanka, Great Britain, India, New Zealand and Pakistan. Later, Malaysia, Singapore, North Borneo and Sarawak promised co-operation. Burma and Indonesia sent observers to meetings of the Consultative Committee in London. The project would raise 1,368 pound million, helped by governments, raised by bank loans, contributions, etc., to support mills; power plants, railways, irrigation, other capital goods, thus combating poverty and communism. The U.S.A. is not a participant, but would consult on Point Four Funds in Asia. The international Bank for Reconstruction and Development would co-operate. Members are: Afghanistan, Australia, Burma, Bhutan, Cambodia, Canada, Sri Lanka, India, Indonesia, Japan, Laos, Malaysia, Maldives Islands, Nepal, New Zealand, Pakistan, the Philippines, S. Korea, S. Vietnam, Singapore, Thailand, U.K. and U.S.A. (ASSOCIATE).

COMICON—is the counterpart of European Common Market, started in the communist countries.

COMMON MARKET—is an agreement (known as Treaty of Rome and also as EUROPEAN ECONOMIC COMMUNITY) between six European nations: Belgium, France, Italy, Luxemburg, the Netherlands and West Germany to abolish economic barriers among themselves by 1970. A treaty was signed in Rome on March 25, 1957. The broad object is to remove progressively all the economic and trade effect of their political frontiers and to create a single market with one common external tariff system. This means also complete freedom of travel and eventual employment for people within this group of nations and the dovetailing of policies on all State matters. Several other nations have become its associate members.

COMMONWEALTH—originally called the British Commonwealth of Nations it is a free association of sovereign independent States of the United Kingdom. Canada, Australia, New Zealand, Lesotho, Swaziland, Malta, Barbados, Jamaica, Trinidad and Tobago, Mauritius, Western Samoa, Fiji and Bahamas and the Republics of India, Sri Lanka, Bangladesh, Ghana, Gambia, Guyana, Nauru, Sierra Leone, Cyprus, Nigeria, Kenya, Singapore, Tanzania, Botswana, Malawi, Malaya, Uganda, Zambia, Tonga, Bermuda, Grenada, Seychelles. Besides, some 50 colonies, protectorates and trust territories, which are dependencies of the U.K., Australia or New Zealand, also form part of the Commonwealth.

The Commonwealth has no written constitution but its members are bound together by a community of ideals and interest. Most members of the Commonwealth have certain constitu-

tional features in common. At the head of each of the Parliaments of the Commonwealth (except those of Malaysia and the Republics) is the Queen, in whose name the administration is carried on. In all those countries, the Queen is represented by the Governor-General, appointed by the Queen on the recommendation of the government of the country concerned and is totally independent of the Government of U.K.

COUNCIL OF EUROPE—was established on May 5, 1949, as a forum for discussion of European problems. Its aim is to achieve greater unity between its members to safeguard their European heritage and to facilitate their economic and social progress. It has 18 members, consisting of America, Belgium, Cyprus, Denmark, France, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, the Netherlands, Norway, Sweden, Switzerland, Turkey, U.K. and West Germany. Its headquarters is at STRASBOURG (France).

EUROPEAN ATOMIC ENERGY COMMUNITY (EURATOM)—was set up in 1959 mainly to create within a short time, the technical and industrial conditions necessary for utilizing nuclear discoveries and specially to produce nuclear energy on a large scale.

EUROPEAN ECONOMIC COMMUNITY (EEC)—SEE COMMON MARKET.

EUROPEAN FREE TRADE ASSOCIATION (EFTA OR OUTERSEVEN)—set up on January 4, 1960 by Stockholm Treaty, it is a loose grouping of 7 countries: Austria, Denmark, Norway, Portugal, Sweden, Switzerland and the U.K. Finland became an associate member on June 26, 1961. The Primary objects of the EFTA are: to promote economic expansion in the area of the Association and in each Member State, to ensure the trade between Member States is carried on fair competition; to avoid significant disparity between Member States in the conditions of supply of raw materials produced within the area; and to contribute to the harmonious development of world trade and to progressive removal of barriers to it. Geneva is its headquarters.

GENEVA CONVENTION—was originally adopted at a national conference held at Geneva in 1864, but was afterwards replaced by the convention of July 6, 1906, also adopted at Geneva. It was an international agreement, chiefly respecting the succour of the wounded in time of war and it forbade all cruel methods of warfare. In 1870-71, during the Franco-German War, a Red Cross Society was formed which did most valuable work, the Geneva cross flag, adapted from the insignia of the military Order of St. John, being recognised as neutral. A further convention was made in 1929, dealing especially with the treatment of prisoners of war and civilians in the light of the experiences of the World War I, and there have been further amendments since. In 1949, a new convention was signed, after preliminary talks in 1946, incorporating amendments suggested by experiences of the World War II.

INTERNATIONAL RED CROSS—Two international organisations are known respectively as **INTERNATIONAL COMMITTEE OF THE RED CROSS** and the **LEAGUE OF RED CROSS SOCIETIES**, both with headquarters in Geneva, Switzerland. The first of these is a wholly international agency unconnected with any national society, and attempts to maintain the basic Red Cross principles of the Geneva Convention; the second agency is a federation of autonomous National Red Cross Societies designed to further co-operation among them.

MARSHAL PLAN—On June 5, 1947, the then U.S. Secretary of State General Marshall described that hunger, poverty, desperation and chaos existed in many parts of Europe and declared that, if Europe was to be saved, the United States should extend co-ordinated, not piecemeal aid. This aid should not be a palliative, but a cure. The U.S. could not itself draw up a plan for European reconstruction but if the nations of Europe could get together, the U.S. ought to support it as much as practicable.

NORTH ATLANTIC TREATY ORGANISATION (NATO)—The Treaty was drawn up in 1948 and signed at Washington on April 4, 1949, by the foreign ministers of Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, U.K. and U.S.A. Greece and Turkey became members of the Organisation in 1952 and German Federal Republic in 1955. Its headquarters is at EVERE, near Brussels (Belgium). The parties agreed to safeguard the freedom, common heritage and civilisation of their people, founded on the principles of democracy, individual liberty and the rule of law, and settle disputes by peaceful means. They regard an armed attack against one or more of them in Europe or North America as an attack against them all.

ORGANISATION OF AFRICAN UNITY (OAU)—was formed on May 25, 1963 by 30 African countries, to coordinate cultural, political, scientific and economic policies; to end

colonialism in Africa ; to promote a common defence of the members' independence. The headquarters is at Addis Ababa (Ethiopia).

ORGANISATION OF AMERICAN STATES(OAS)—in September 1947, eighteen Latin American countries (Nicaragua and Ecuador were excluded) and the U.S.A. signed at Rio-de-Janeiro. The Treaty under which all signatories agreed to protect against aggression every State in the Western Hemisphere. In April 1948 at BOGOTA (Columbia), all the 21 American nations (excluding Canada) joined the OAS to implement the Rio Treaty and form a collective security system. Members are: Argentina, Bolivia, Brazil, Chile, Columbia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Trinidad and Tobago, U.S.A., Uruguay and Venezuela. Cuba, a member since the inception was excluded from the Organisation in January 1962. Its headquarters is at WASHINGTON.

SOUTH-EAST ASIA TREATY ORGANISATION (SEATO)—was established at Manila on September 8, 1954 by 8 countries, to provide for the collective defence and economic co-operation in S.E. Asia. Its headquarters is at **BANKOK**. If any country within the area designated by the treaty is threatened by an armed attack, the member must consult together about measures to be undertaken. They cannot, however, intervene unless expressly invited to by that country. Members are: Australia, Britain, France, New Zealand, the Philippines, Thailand and the U.S.A.

WARSAW PACT—is the 20-year mutual defence treaty signed on May 14, 1955 at Warsaw, by several communist countries Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Rumania and the USSR. The alliance was made necessary by the remilitarization of West Germany under Paris Pact of 1954. The Pact provides for its lapse as soon as an East-West collective security should come into force. An united military command with its headquarters at MOSCOW, was also set up.

SOME IMPORTANT POLITICAL PARTIES

PARTIES IN U.S.A.—There are no fundamental differences between the two major political parties of the U.S.A. — the **REPUBLICAN** and the **DEMOCRATIC**. Strictly speaking, two parties cannot be exactly classified the left and the right pattern and there are conservative as well as progressive **REPUBLICANS**, as there are conservative and progressive Democrats. **REPUBLICAN PARTY** under Abraham Lincoln's leadership in the nineteenth century, abolished slavery. **DEMOCRATIC PARTY**, in the present century, has tended to represent itself as the party of the small man and of social reforms. It is supporter of civil rights for Negroes.

KUOMINTANG—the Chinese Nationalist Party formed originally by the followers of Sun Yat-Sen in 1905. The party was driven out from the mainland of China by the communists and is now confined to the island of Formosa only.

CONSERVATIVE PARTY—one of the three chief political parties of England. It is the successor of the Tory Party of the 18th and 19th centuries. Traditionally, the Tories were the parties of the squire and the person as opposed to the Whigs, the forerunners of the Liberals, who though led a group of great land-owning families, drew their support mainly from the business classes and non-conformists.

LABOUR PARTY—It is the British Socialist Party composed of trade unions socialists and co-operative societies which came into official existence in 1980. It aims at bringing about by legislation, changes which will benefit the poorer classes. Nationalization of basic industries and public utilities is the main programme of the Party. The Party's policy is not based on Marxism—instead, it is derived from the ethical idealist of the labour co-operative and radical movements and the practical rationalisation of Fabianism.

LIBERAL PARTY—another party of England, which developed out of the Whig Party in the 19th century, stood for Parliamentary reform, individual liberty, freedom of speech, of the press and of worship, for **LAISSEZ-FAIRE** and/or international free trade. Towards the end of the 19th century, Liberal Party modified its views on **LAISSEZ-FAIRE** to ensure minimum living standards for the working class and laid the foundation of what we call today 'welfare state'.

COMMUNIST PARTY—is the world organisation of marxist socialists, which once operated through branch national parties very loosely affiliated to the Communist International.

al or 'Comintern', later abolished by the order of Stalin. The International has again been revived under the name of 'Cominform', which is said to be the Common Information Bureau of the Communist Parties in nine countries of Europe.

INDIAN POLITICAL PARTIES

INDIAN NATIONAL CONGRESS—Its first session took place in Bombay in 1885. W.C. Bonerjee was its first president. The objective of the Indian National Congress as adopted in 1948, is the "the well-being and advancement of the people of India and the establishment in Indian by peaceful and constitutional means of a Co-operative Commonwealth based on equality of opportunity and of political economic and social rights and aiming at world peace and fellowships". The Congress advocates a democratic secular government with welfare as the goal. A.I.C.C., in 1963, advocated "democratic socialism". The party was split into two in November 1969. The other section of Congress was known as Organisation Congress which dissolved itself ultimately to form the Janata party in 1977. The Congress in Jan. 1978 split again when Mrs. Indira Gandhi with her followers came out of the Congress to form a parallel organisation, which decided to call itself CONGRESS (I), I for Indira. Members who did not join CONGRESS (I) remained in the party and named their party CONGRESS (S).

COMMUNIST PARTY OF INDIA—Organised in its form in 1924, the party moulds its policy with reference to the policy of Russian in international affairs, rather than according to the conditions obtaining in India. They follow orthodox international communist line. The Party's aim is "the organisation of the toiling masses in the struggle for the victorious anti-imperialists and agrarian revolution for complete national independence, for the establishment of a people's democratic State led by the working class, for the realisation of the dictatorship of the proletariat and the building-up socialism according to the teachings of marxism and Leninism.

COMMUNIST PARTY OF INDIA (MARXIST)—A section of the Communist Party members who resented the CIP's unquestionable allegiance with Soviet policies severed its connection with parent body and formed this party. The party does not believe in cooperation with the Congress and aims at a total "Peoples Democratic Revolution" contrasted to "National Democratic Revolution" professed by CPI.

COMMUNIST PARTY OF INDIA (MARXIST-LENINIST)—This party was formed by an extremist faction of the C.P.I.(M.) It has accepted the Chinese method of peasant-based guerilla warfare as the only means of establishing a communist regime in India. The party has no faith in Parliamentary democracy. But at present it is plagued with many factions, some of whom have decided to re-enter into parliamentary politics.

JANATA PARTY—It came into being as a formal party on 1st May, 1977. A combination of the previous Cong.(O), Jana Sangha, S.S.P., P.S.P., B.L.D. etc. the party is strongly wedded to Gandhian principles of social organisation and India's democratic tradition. In 1977 the Janata Party sweep into power with landslide victory in the Lok Sabha elections. The Party was split into a number of parties in 1979.

BHARATIYA JANATA PARTY—Former Jana Sangha members of the Janata Party severed its connection with parent body and formed this party in 1979.

LOKDAL—Former members of the Bharatiya Lok Dal of the Janata Party severed its connection with parent body and formed this party in 1979.

REVOLUTIONARY SOCIALIST PARTY OF INDIA—preaches Marxist doctrine and wants to establish a social State in India through revolution. It is organised on the principle of democratic centralism but oppose sub-survience to the foreign policy of Russia or China.

FORWARD BLOC—came into existence in 1938 when Subhas Bose sought to rally leftists against the Congress orthodoxy. It favours a programme of direct action and repudiates all compromises. The Party's objective now is the establishment of a socialist State in India with complete severance of relations with the Commonwealth.

PEASANTS AND WORKERS PARTY—the Party's programme includes "severance of all connection with British imperialist, abolition of Landlordism without compensation, confiscation of foreign capital invested in banks and industries".

AKALI DAL—a politico-religious party of a section of the Sikhs. It aims at maintaining the separate identity of the Sikh community and the establishment within Indian Union of a

Punjabi Suba as a homeland for the Sikhs, and advocates the adoption of gurumukhi languages as a State language for the Punjabi State.

DRAVIDA MUNNERTA KAZHAKAM—a party of South India consisting mainly of non-Brahmins, who are against the domination of North India and the superiority of the Brahmins. The Party obtained absolute majority in the Tamil Nadu Legislative Assembly at the Elections of 1967 and 1971.

ALL INDIA ANNA DRAVIDA MUNNETRA KAZHAKAM—A splinter group of the D.M.K. led by M.G. Ramachandran formed this party. It professes to implement the ideas of the late Annadurai, the founding-father of the D.M.K.

POLITICAL ABBREVIATIONS

- ABD—Asian Development Bank
- AID—Agency International Development (USA)
- AICC—All India Congress Committee
- AITUC—All India Trade Union Congress
- AMGOT—Allied Military Govt. of Occupied Territory
- ANZUS—Australian, New Zealand and U.S. Defence Pact (Pacific Security Treaty)
- ASEAN—Association of South-East Asian Nations
- BIS—Bank for International Settlements
- CARE—Co-operative for American Relief Everywhere
- CBI—Central Bureau of Investigation
- CENTO—Central Treaty Organization
- CENR—European Organization (formerly Council) for Nuclear Research
- CIA—Central Intelligence Agency
- CITU—Central of Indian Trade Union
- COMECON—(East European) Council for Mutual Economic Assistance
- DIR—Defence of India Rules
- DRI—Directorate of Revenue Intelligence
- ECA—(U.N.) Economic Commission for Africa
- ECAFE—(U.N.) Economic Commission for Asia and the Far East*
- ECE—(U.N.) Economic Commission of Europe
- ECLA—(U.N.) Economic Commission for Latin America
- ECM—European Common Market
- ECOSOC—(U.N.) Economic and Social Council
- ECSC—European Coal and Steel Community
- EDC—European Defence Community
- EEC—European Economic Community (Common Market)
- EFTA—European Free Trade Association
- ELDO—European Launcher Development Organization
- EMA—European Monetary Agreement
- ENEA—European Nuclear Energy Agency
- ESRO—European Space Research Organization
- EURATOM—European Atomic Energy Community
- FAO—Food and Agriculture Organization*
- FBI—Federal Bureau of Investigation
- GATT—General Agreement on Tariff and Trade†
- IADB—Inter-American Development Bank
- IAEA—International Atomic Energy Agency†
- IATA—International Air Transport Association
- IBRD—International Bank for Reconstruction and Development (World Bank)*
- ICAO—International Civil Aviation Organization*

- ICEM—Inter-governmental Committee for European Migration
- ICFTU—International Confederation of Free Trade Unions
- IDA—International Development Association†
- IFC—International Finance Corporation†
- ILO—International Labour Organization*
- IMCO—Inter-governmental Maritime Consultative Organization*
- IMF—International Monetary Fund*
- INTERPOL—International police
- INTUC—Indian National Trade Union Congress
- IRO—International Refugee Organization†
- ITU—International Tele-communications Union*
- KGB—Komitet Gosudarstvennoy Bizo pasonsti
- LAFTA—Latin American Free Trade Association
- MISA—Maintenance of Internal Security Act
- NATO—North Atlantic Treaty Organization
- OAS—Organization of American States
- OAU—Organization of African Unity
- OCAS or ODECA—Organization of Central American States (ORGANIZATION DE ESTADOS AMERICANOS)
- OECD—Organization for Economic Co-operation and Development
- OEEC—Organization of European Economic Co-operation
- OPEC—Organization of Petroleum Exporting Countries
- POW—Prisoner of War
- RCD—Regional Co-operation for Development (Pakistan-Persia-Turkey)
- SACEUR—Supreme Allied Commander, Europe
- SACLANT—Supreme Allied Commander, Atlantic
- SALT—Strategic Arms Limitation Talks
- SEADO—South-East Asia Defence Organization
- SEATO—South East Asia Treaty Organization
- SHAPE—Supreme Headquarters of Allied Powers in Europe
- TAB—(UN) Technical Assistance Board
- UMACE—Afro-Malagasy Union for Economic Co-operation
- UNCAFE—United Nations Commission for Asia and Far East†
- UNCTAD—United Nations Conference on Trade and Development
- UNCURK—United Nations Committee for the Unification and Rehabilitation of Korea
- UNDP—United Nations Development Programme
- UNEF—United Nations Emergency Force in the Middle East
- UNESCO—United Nations Educational, Scientific & Cultural Organization*
- UNFICYP—United Nations Peace-Keeping Force in Cyprus
- UNHCR—United Nations High Commissioner for Refugees†
- UNICEF—United Nations International Children's Emergency Fund*
- UNIDO—United Nations Industrial Development Organization†
- UNO—United Nations Organization
- UNOC—United Nations Operation in the Congo
- UNRWA—United Nations Relief Works Agency for Palestine Refugees
- UNTSO—United Nations Truce Supervision Organization in the Middle East
- UPU—Universal Postal Union*
- WEU—Western European Union
- WFTU—World Federation of Trade Union

WHO — World Health Organization*
 WMO — World Meteorological Organization*

FAMOUS ASSASSINATIONS

- 1865 — Abraham Lincoln, President of US, April 15.
- 1872 — Earl of Mayo, Governor-General of India.
- 1876 — Abdul Aziz, Sultan of Turkey, June 4.
- 1881 — Alexander II of Russia, Mar. 13; President Garfield of US, July 2.
- 1894 — Marie F. Said-Carnot, President of France, June 24.
- 1896 — Nash-ed-Din, Shah of Iran.
- 1898 — Empress Elizabeth of Australia, Sept. 10.
- 1900 — Humbert I of Italy, July 29.
- 1901 — President McKinley of US, Sept. 6.
- 1903 — King Alexander and his wife Draga of Serbia.
- 1905 — Grand Duke Sergius of Russia.
- 1908 — King Carlos & Crown Prince of Portugal.
- 1909 — Prince Ito of Japan.
- 1911 — Stolypin, Premier of Russia, Sept. 14.
- 1913 — Francisco L. Madero, President of Mexico and Jose P. Suarez, Vice President, Feb. 23;
 . King George of Greece, Mar. 18.
- 1914 — Archduke Francis Ferdinand of Austria & his wife, June 28.
- 1916 — Grigori Rasputin, politically powerful monk, Dec. 30.
- 1918 — Czar Nicholas II and his family, July 16; President Sidonio Paes of Portugal, Dec. 14.
- 1919 — Amir Habibullah of Afghanistan.
- 1920 — General V. Carranza, President of Mexico, May 20.
- 1921 — Dato, Premier of Spain; Takhasi Hara, Japanese Premier.
- 1922 — M. Collins, Premier of Irish Free State, Aug. 22.
- 1928 — President Alvaro Obregon of Mexico, July 17.
- 1930 — Premier Hamaguchi, Japan.
- 1932 — President Doumer, France; Ki Inuki, Japanese Premier, May 31.
- 1933 — Emir Faisal, King of Iraq, Sept 9; Ion Duea, Rumanian Premier, Dec. 24; King Nadir
 . Shah, Afghanistan.
- 1934 — Australian Chancellor Dr. E. Dollfuss, July 25; King Alexander I of Yugoslavia; J.L.
 . Barthow, French Foreign Minister, Oct.
- 1936 — K. Takahasi; Finance Minister, Admiral Saito and Admiral Suzuki, Japan.
- 1939 — Rumanian Premier M. Calinescu.
- 1940 — Leon Trotsky, Russian leader, Aug. 20.
- 1942 — Admiral Jean Doreau of France, Dec. 24.
- 1945 — Mehar Pasha, Premier of Egypt, Feb. 24.
- 1946 — Ananda Mahidol, King of Siam, July 9.
- 1947 — Gen. Aung San, Vice-President of Burma and five Cabinet Ministers.
- 1948 — Mahatma Gandhi, Jan. 30; Count F. Bernadotte, UN Mediator for Palestine, Sept. 17;
 . Premier N. Pasha of Egypt.
- 1950 — C. Deigado Chabound, President of Venezuela, Nov. 13; King Abdullah of Jordan, July
 . 20; Liaquat Ali Khan, Premier of Pakistan, Oct. 16.
- 1951 — King Abdul ibn Hussain of Jordan, July 20.
- 1955 — President Jose Antonio Remon of Panama, Jan. 2.
- 1957 — President Carlos Castillo Armas of Guatemala, July 26.

*UN Specialized Agency.

†Under aegis of the UN but not a Specialized Agency.

COUNTRY	EXECUTIVE HEAD	PREMIER
Guinea-Bissau	L. Cabrel, P.	F. Mendes
Guyana	Arthur Chung, P.	L. Forbes Burnham
Haiti	Jean-Claude Duvalier, P.	
Honduras	Gens. Garcia Alvarez, Celaya, P.	
Hungary	Pal Losonzei, P.	Miklos Nemeth
Iceland	Mr. Vigdis Finnbog- Gadottir, P.	O. Johansson
India	R. Venkataraman, P.	V. P. Singh
Indonesia	Gen. Suharto, P.	
Iran	Hojatoleslam Ali Akbar Hashemi Rafsanjani	Hussain Moussavi
Iraq	Saddam Hussein, Al-Takriti, P.	
Ireland	P.J. Hillery	Charles Haughey
Israel	Chaim Harzog, P.	Skimon Peres
Italy	Francesco Cossiga	Giulio Andreotti
Ivory Coast	F. Houphouet-Boigny, P.	
Jamaica	F.A. Glasspole, G.G.	Michael Manley
Japan	Akihito, Emperor	Toshibi Kaifu
Jordan	Hussain I, King	Field Marshal Zeid Bin Shaker
Kampuchea	Heng Samrin	Hun Sen
Kenya	Daniel Arap Moi	
Korea, N.	Kim Il-Sung, P.	Li Jong Ok
Korea, S.	Roh Tai-Woo, P.	Lho Skin-Yung
Kuwait	Sheikh Jaber al-Ahmad al-Sahah, Em	Shaikh Sa-ad Abdulla Al-Sabah
Laos	Suvanna Vong, P.	Phomvihane Kaysone
Lebanon	Elias Hrawi, P.	Salim al-Hass
Lesotho	M. Mosheshoe II, King	Leabua Jonathan
Liberia	William R. Tolbert, P.	
Libya	Col. M. el Gaddafi, Chairman, Revolutionary Council	Jadallah, A. Talhi
Liechtenstein	F. Joseph II, Prince	Hans Burnhart
Luxembourg	Jean, Grand Duke	Pierre Werner
Malagasy	D. Ratsiraka, P.	J. Rakotarijaona
Malawi	Dr. H.K. Banda, P.	
Malaysia	Sultan Azlan Muhibuddin Shah	Dr. Mahathir Mohamad King
Maldives	Gayoon, P. Maumoon Abdul	
Mali	Lt. M. Traore, P.	
Malta	Sir A. Mamo, P.	Eddie French-Adami
Mauritania	M.O. Salek, P.	
Mauritius	Sir Raman Osman. G.G.	Aneroodh Jugnauth
Mexico	Carlos Salinas de Gortari, P.	
Monaco	Rainer III, Prince	Andre Saint-Mieux
Mongolia	Jambyn Batmunkh, Chairman	Dumaagiyn Sodonom

COUNTRY	EXECUTIVE HEAD	PREMIER
Morocco	Hassan II, King	Maati Bouabid
Mozambique	Maj. Gen. Joaquim Alberto Chissano	
Nauru	Hammer de Roburt, P.	
Nepal	Birendra Bir Bikram Shah, King	Lokendra Bahadur Chand
Netherlands	Juliana, Queen	R.F.M. Lubbers
New Zealand	David Stuart Beattie, G.G.	Geoffrey Palmer
Nicaragua	Daniel Ortega, P.	
Niger	Col.Ali Seibou, P.	
Nigeria	Maj. Gen. Ibrahim Babanginda, P.	
Norway	Olav V., King	Jan Syse
Oman	Qabus bin said, Sultan	
Pakistan	Ghulam Ishaq Khan	Benazir Bhutto
Palau	Ngiratkel Etpison, P.	
Panama	Francisco Rodrigues	Gen.O.T.Herrera
Papua New Guinea	T.Lokoioke, G.G.	Rabbie Namaliu
Paraguay	Gen.Andres Rodriguez, P.	
Peru	Alan Garcia Perez, P.	Guillermo Larco Cox
Philippines, The	Mrs. Corazon Aquino, P.	
Poland	Wojciech Jaruzelski, P.	Tadeusz Mazowiecki
Portugal	Antonio Eanes, P.	Mario Soares
Qatar	Khalifa bin Hamad al-Thani	Hheikh K.B.H.Al Thani
Romania	Nicolae Ceasescu, P.	Manea Manescu
Rwanda	J.Habyarimana, P.	
Samoa	M.Tanumafili, KING	T.Efi
San Marino	C.Reggenti, P.	
Sao Tome Principe	M.P.da Costa, P.	M.Trovoda
Saudi Arabia	Faud bin Abdul Aziz, King	
Senegal	A.Diouf, P.	
Seychelles	Albert Rene, P.	
Sierra-Leone	S.P.Stevens, P.	C.A.Kamara-Taylor
Singapore	Wee Kim Wee, P.	Lee Kuan Yew
Solomon Is.	B.Devesi, G.G.	P.Kenilorea
Somalia	Md.S.Barre, P.	
South Africa	F.W.De Klerk, P.	
Spain	Juan Carlos I, King	Felipe G.Marquez
Sri Lanka	J.Jayawardene, P.	Dingiri Banda Wijetunge
Sudan	Gen.Jaafar el-Nemeiri, P.	El-Gazouli Dafallah
Surinam	Fred Ramdatmisiter, P.	H.A.E. Arron
Swaziland	Sobhuza II, KING	Prince M.Dlamini
Sweden	Gustav Carl XVI.KING	Ingvar Carlsson
Switzerland	Pierre Aubbert, P.	
Syria	Hafez al Assad, P.	Abdel-Raouf Al Kasma
Taiwan	Chin Ching-Kou, P.	Lee Hun
Tanzania	Ali Hassan Mwinyi, P.	Salim Ahmed Salim
Thailand	Bhumibol Adulyadej	Maj.Gen.Chatichai

HINDUSTAN YEAR-BOOK

COUNTRY	EXECUTIVE HEAD	PRIMIER
Togo	Head of Administrative Reform Committee	
Tonga	Gen. G. Eyadema, P. Taufa'ahau Tupu IV King,	F. Tu'ipelehake
Trinidad & Tobago	Sri E.E.I. Clarke, P.	Eric E. Williams
Tunisia	Zine al-Abidine Ben Ali	Hamed Karoui
Turkey	Turgut Ozial, P.	
Tuvalu		Suleyman Demirel
Uganda	Goweri Museveni, P.	Abraham Waligo
United Arab Emirates	Shekh Zayed, P.	M. bin Rashid al-Maktoum
Upper-Volta	Gen. Lamizana, P.	J. Conombo
Uruguay	Gregoria Alvarez, P.	
USA	George Bush, P.	
USSR	Mikhail S. Gorbachev. President and Gen. Secy. C.P.S.U.	Nikolai Ryzhkov, Chariman of Council of Minister
Vanuatu	Adi George Sokomanu, P.	Fr. Walter Lini
Vatican City	John Paul H, Pope	
Venezuela	Carlos Andres Perez, P.	
Viet-Nam	Truong Chinh, P.	Vo. Vat Kiet
Western Samoa	M. Tanumafili II, King	T.T. Lealof
Yemen, People's		
Dem. Rep. of	Ali Nasser Md. Hassani, P.	Ali Nasser Md. Hadani
Yemen Arab Rep.	Ali Abdulla Saleh, P.	Abdul Aziz Abdul Ghani
Yugoslavia	Janiz Drnovesk, P.	Ante Markovics
Zaire	Mobutu Sese Seko, P.	
Zambia	Kenneth Kaunda, P.	Mainza Chona
Zimbabwe		Robert Mugabe

UNITED NATIONS

ORIGIN—The United Nations name was first devised by President Franklin D. Roosevelt and it was used first in the Declaration by UN on January, 1942 when only 26 nations representatives pledged their governments to continue fighting jointly against the Axis Powers.

The United Charter was drawn up by the representatives of 50 countries at a Conference on International Organisation met at San Francisco in June 1945 and the Charter was signed on 26th June, 1945. Poland signed on a later date and became one of the original 51 states.

The United Nations officially came into being on the 24th October 1945 when the Charter had been ratified by China, France, the USSR, the US by a being on the 24th October.

PURPOSES—The four purposes of the UN are—(1) to maintain international peace and security, (2) to develop friendly relations among nations, (3) to co-operate internationally in solving economic social, cultural and humanitarian problems and in promoting respect for human rights and for fundamental freedoms, and (4) to be centre harmonizing the actions of nation in attaining these common ends.

FINANCE—The UN is financed by the contribution from member States. All member States contribute to the expenses of the budget and to the Working Capital Fund on a scale determined by the General Assembly each year on the recommendation of the Committee on

Contributions. As approved by the General Assembly UN regular budget in 2 year period i.e. \$ 1,090,113,500 (1978-1979).

ROSTER OF THE UN

The United Nations now has 159 members. They are enlisted below with respective dates of admission to the UN. (Countries with asterisks marks are original Member States)

Member	Date of Admission	Member	Date of Admission
Afghanistan	19 Nov. 1946	Algeria	8 Oct. 1962
Albania	14 Dec. 1955	Angola	24 Oct. 1976
Antigua & Barbuda	1981	Germany Dem Rep.	18 Sept. 1973
*Argentina	24 Oct. 1945	Germany Fed. Rep.	18 Sept. 1973
*Australia	1 Nov. 1945	Ghana	18 Mar. 1957
Austria	14 Dec. 1955	*Greece	25 Oct. 1945
Bahamas	18 Sep. 1973	Grenada	17 Sep. 1974
Bahrain	21 Sep. 1971	*Guatemala	21 Nov. 1945
Bangladesh	17 Sep. 1974	Guinea	12 Dec. 1958
Barbados	9 Dec. 1966	Guinea-Bissau	17 Sep. 1974
*Belgium	27 Dec. 1945	Guyana	20 Sep. 1966
Belize	25 Sep. 1981	*Haiti	24 Oct. 1945
Benin	20 Sep. 1960	*Honduras	17 Dec. 1945
Bhutan	21 Sep. 1971	Hungary	14 Dec. 1955
*Bolivia	14 Nov. 1945	Iceland	19 Dec. 1946
Botswana	17 Oct. 1966	*India	30 Oct. 1945
*Brazil	24 Oct. 1945	†Indonesia	28 Sep. 1950
Brunei	21 Sep. 1984	*Iran	24 Oct. 1945
Bulgaria	14 Dec. 1955	*Iraq	21 Dec. 1945
Burma	19 Apr. 1948	Ireland	14 Dec. 1955
Burundi	18 Sep. 1962	Israel	11 May 1949
*Byelorussian	24 Oct. 1945	Italy	14 Dec. 1955
Cameroon	20 Sep. 1960	Ivory Coast	20 Sep. 1960
*Canada	9 Nov. 1945	Jamaica	18 Sep. 1962
Cape Verde	16 Sep. 1975	Japan	18 Dec. 1956
Cent. African Rep.	20 Sep. 1960	Jordan	14 Dec. 1955
Chad Republic	20 Sep. 1960	Kampuchea	14 Dec. 1955
*Chile	24 Oct. 1945	Kenya	16 Dec. 1963
†* China	24 Oct. 1945	Kuwait	14 May 1963
*Colombia	5 Nov. 1945	Laos	14 Dec. 1955
Comoros	12 Nov. 1975	*Lebanon	25 Oct. 1945
Congolese Republic	20 Sep. 1960	Lesotho	17 Oct. 1966
*Costa Rica	2 Nov. 1945	*Liberia	2 Nov. 1945
*Cuba	24 Oct. 1945	Libya	14 Dec. 1955
Cyprus	20 Sep. 1960	*Luxembourg	24 Oct. 1945
*Czechoslovakia	24 Oct. 1945	Malagasy	20 Sep. 1960

†* The Peking regime was on 25th October, 1971 voted into the U.N. and Taiwan expelled from it when the General Assembly approved a resolution moved by Albania recognized the People's Republic of China as the only legitimate representative of China and calling for the immediate expulsion of the representative of Chiang Kai-Shek.

† Withdrew on Jan. 21, 1965 but was again inducted on 28th Sept, 1966.

Denmark	24 Oct. 1945	Malawi	1 Dec. 1964
*Djibouti	20 Sep. 1977	Malayasia	17 Sep. 1957
Dominica	18 Dec. 1978	Maldives	21 Sep. 1965
*Dominican Rep.	24 Oct. 1945	Mali	28 Sep. 1960
*Ecuador	21 Dec. 1945	Malta	1 Dec. 1964
*Egypt	24 Oct. 1945	Mauritania	27 Oct. 1961
*El Salvador	24 Oct. 1945	Mauritius	24 Apr. 1968
Equatorial Guinea	12 Nov. 1968	*Mexico	7 Nov. 1945
*Ethiopia	13 Nov. 1945	Mongolia	2 Oct. 1961
Fiji	13 Oct. 1970	Morocco	12 Nov. 1956
Finland	14 Dec. 1955	Mozambique	16 Sep. 1975
*France	24 Oct. 1945	Nepal	14 Dec. 1955
Gabon	20 Sep. 1960	*Netherlands	10 Dec. 1945
Gambia	21 Sep. 1965	*New Zealand	24 Oct. 1945
*Nicargue	24 Oct. 1945	Sri Lanka	14 Dec. 1955
Niger	20 Sep. 1960	Sudan	12 Nov. 1956
Nigeria	7 Oct. 1960	Surinam	4 Dec. 1975
*Norway	27 Nov. 1945	Swaziland	24 Sep. 1968
Oman	7 Oct. 1971	Sweden	19 Nov. 1946
Pakisatan	30 Sep. 1947	*Syria	24 Oct. 1945
*Panama	13 Nov. 1945	Tanzania	14 Dec. 1961
Papua New Guinea	10 Oct. 1975	Thailand	16 Dec. 1946
*Paraguay	24 Oct. 1945	Togo	20 Sep. 1960
*Peru	31 Oct. 1945	Trinidad & Tobago	18 Sep. 1962
*Philippines	24 Oct. 1945	Tunisia	12 Nov. 1956
Poland	24 Oct. 1945	*Turkey	24 Oct. 1945
Portugal	14 Dec. 1955	Uganda	25 Oct. 1962
Qatar	21 Sep. 1971	Ukaraine	24 Oct. 1945
Romania	14 Dec. 1955	United Arab Emirates	9 Dec. 1971
Rwanda	18 Sep. 1962	*United Kingdom	24 Oct. 1945
Saint Kitts and Nevis	23 Sep. 1983	*United States	24 Oct. 1945
Saint Lucia	18 Sep. 1979	Upper Volta	20 Sep. 1960
Samos (Western)	15 Dec. 1976	Uruguay	18 Dec. 1945
Sao Tome		*USSR	24 Oct. 1945
Principe	16 Sep. 1975	Vanuatu	8 Jul. 1981
*Saudi Arabia	24 Oct. 1945	*Venezuela	15 Nov. 1945
Senegal	28 Sep. 1960	Vietnam	20 Sep. 1977
Seychelles	24 Oct. 1976	Yemen Arab Rep.	30 Sep. 1947
Sierra Leone	27 Sep. 1961	Yemen, People's	
Singapore	21 Sep. 1965	Dem. Rep. of	14 Dec. 1967
Solomon Islands	19 Sep. 1978	*Yugoslavia	24 Oct. 1945
Somalia	20 Sep. 1960	Zaire	20 Sep. 1960
*South Africa	7 Nov. 1945	Zambia	1 Dec. 1964
Spain	14 Dec. 1955		

HEADQUARTERS AND OFFICES—The headquarters of the UN is at New York. The European office of the UN is at Geneva. From 1954 UN Information Centres and services are †. *The Peking regime was on 25th October, 1971 voted into the U.N. and Taiwan expelled from it when the General Assembly approved a resolution moved by Albania recognized the People's Republic of China as the only legitimate representative of China and calling for the immediate expulsion of the representative of Chiang Kai-Shek.

†Withdrew on Jan. 21, 1965 but was again inducted on 28th Sept, 1966.

operating at 50 capital cities all over the world. Cost of Hq. buildings is \$67,093,290 plus \$6,703,567 for Dag-Hammarskjöld Library.

UNITED NATIONS FLAG—The flag is light blue in colour and emblazoned in white in its centre is the U.N.'s symbol—a polar map of world embraced by twin olive branches.

UNITED NATIONS LANGUAGES—The official languages of the United Nations are Arabic, Chinese, English, French, Russian and Spanish. The official languages of other major organs vary, e.g. in Security Council, they are Chinese, English, French, Russian & Spanish.

ORGANS OF THE UNITED NATIONS

Principal organs of the United Nations are—(1) GENERAL ASSEMBLY; (2) SECURITY COUNCIL; (3) ECONOMIC AND SOCIAL COUNCIL; (4) TRUSTEESHIP COUNCIL; (5) INTERNATIONAL COURT OF JUSTICE AND (6) SECRETARIAT.

GENERAL ASSEMBLY—consists of representatives of all the member nations, each with one vote but none with veto power. Each member is, entitled to be represented at its meeting by not more than five representatives. The General Assembly meets once a year in regular session and also in special sessions when necessary. Special sessions are convoked by the Secretary-General at the request of the Security Council or of a majority of the members of the U.N. Voting on important questions is by a simple majority.

COMMITTEES—To facilitate its works, the General Assembly breaks up to 7 main Committees: (1) Political and Security (including regulations of armaments; (2) Economic and Financial; (3) Social, Humanitarian and Cultural; (4) Trusteeship and Non-Self-Governing Territories; (5) Administrative and Budgetary; (6) Legal; (7) Special Political Committee.

SECURITY COUNCIL—is primarily responsible for keeping international peace and security. Any nation, a U.N. member or not, and Secretary-General may bring dispute or a threat to peace to the attention of the Security Council. It has 15 members, 5 of which (United States, U.K., France, USSR and China) are permanent, 10 non-permanent members—at present Ireland, Japan, Panama, Spain, Uganda, Guyana, Jordan, Poland, Togo and Zaïre are elected by a two-third majority of the General Assembly for a 2-year term and are not eligible for immediate re-election. The Council is organised to be able to function continuously. Each member acts as the Council's President for one month. A negative vote by any permanent member is a veto. The Council can take no action if any permanent member does not agree, i.e., uses the veto. If the question to be discussed concerns one of the permanent members, that member is not allowed to vote. An abstention is not regarded in practice as a veto against. When the Council is handling a dispute or situation, the General Assembly makes no recommendations unless the Council requests it.

ECONOMIC AND SOCIAL COUNCIL—consists of 27 members elected by a two-third majority of the General Assembly, 9 are elected each year for a 3-year term and meets usually twice a year. It works towards establishing lasting world peace by helping the poor, the sick and the illiterate all over the world. Through its Functional and Regional Economic Commission, the specialized agencies, the Technical Assistance Committee and consultation with non-governmental organisations, the Council promotes better social, economic, educational and health conditions and universal respects for, and observance of, human rights and fundamental freedom for all people without the distinction as to race, sex, language or religion.

SUBSIDIARY BODIES TO ECONOMIC AND SOCIAL COUNCIL—The Economic and Social Council generally holds two months long sessions in New York and Geneva.

There are standing committees on Programme and Co-ordinations, Non-Governmental Organisation, Natural Resources, Negotiation with Inter-Governmental Agencies, Science and Technology for Development Review Appraisal. The commissions on Human Settlements and Transnational Corporations are also standing bodies.

The functional Commissions include Statistical Commissions, Population Commission, Commission for Social Development, Commission on Human Rights, Commission on the Status of women and Commission on Narcotic Drugs. The Commission on Human Rights has a Sub-Commission on Prevention of Discrimination and protection of minorities. The Commission on Narcotic Drugs has a Sub-Commission on Illicit Drug Traffic and Related matters in the Near & Middle East. Economic Commission for Africa (based in Addis Ababa), Economic and Social Commission for Asia and the Pacific (Bangkok), Economic Commission

for Europe (Geneva), Economic Commission for Latin America (Santiago), Economic Commission for Western Asia (Beirut).

FUNCTIONAL COMMISSIONS—work on specific problems through the commissions of experts and their sub-commissions on Prevention of Discrimination and Protection of Minorities. The Functional Commissions are—Statistical, Population, Social, Narcotics, Status of Women, Human Rights and International Commodity Trade.

REGIONAL ECONOMIC COMMISSIONS—are in four centres : (1) ECONOMIC COMMISSION FOR EUROPE (ECE) at Geneva ; (2) ECONOMIC COMMISSION FOR ASIA AND THE FAR EAST (ECAFE) at Bangkok ; (3) ECONOMIC COMMISSION FOR LATIN AMERICA (ECLA) at Santiago (Chile) ; (4) ECONOMIC COMMISSION FOR AFRICA (ECA) at Addis (Ethiopia).

TRUSTEESHIP COUNCIL—is responsible for the supervision of the administration of Trust Territories (consisting, for most part, of former mandates) placed under its jurisdiction. It is the only organ of the U.N. in which the exact number of members is non-specified. Membership consists of: (1) countries administering; (2) permanent members of the Security Council, which do not administer such territories; (3) as many additional members, elected by the General Assembly for 3-year terms, as may be necessary to ensure that the total membership is equally divided between administering and non-administering countries. The President is elected once in a year and is not immediately eligible for re-election. The Council meets once a year.

TRUSTEESHIP TERRITORIES—now consist of: (1) NEW GUINEA (Australia) and (2) PACIFIC ISLANDS (U.S.A.)

INTERNATIONAL COURT OF JUSTICE—is the principal judicial organ of the United Nations. All members, of the U.N. are *IPSIO FACTO* parties to the Statute of the court. The International Court of Justice considers disputes between member-nations. It is a court of Law and deals with legal questions only, not with political disputes. All countries which are parties to the Statute of the Court can refer to it any case they wish. In addition, the Security Council may refer a legal dispute to the Court. All other organs of the U.N. and the specialized agencies, when authorised by the General Assembly, can ask the Court for an advisory opinion on any legal question. The decisions of the Court are final but are binding only between the parties concerned and in respect of a particular dispute.

The court consists of 15 Judges elected for a 9-year term by the General Assembly and the Security Council, voting independently. The President and The Vice-Presidents are elected by the Court for a term of 3 years. The seat of the Court is at the HAGUE (the Netherlands).

SECRETARIAT—is composed of a Secretary-General, who is the chief administrative official of the organisation, and such staff as the organisation may require. He is appointed for a 5-year term by the General Assembly on the recommendation of the Security Council and may be re-appointed. He may bring to the attention of the Security Council, any matter threatening the maintenance of the international peace and security.

UN INTERNATIONAL AGENCIES

FOOD AND AGRICULTURAL ORGANIZATION (FAO)—was established on 16 Oct. 1945. The chief aims of F.A.O. are: (1) to help nations raise living standards ; (2) to improve nutrition of the people of all countries ; (3) to increase the efficiency of farming, forestry and fisheries ; (4) to better the condition of rural people and through all these means, to widen the opportunity to all people for productive work. HEADQUARTERS: Viale delle Terme di Caracalla, Rome (Italy).

GENERAL AGREEMENT ON TARIFFS AND TRADE (GATT)—is a multi-lateral agreement through which 76 contracting parties (full members), including all the leading trading countries, co-operate in the reduction of trade barriers and in the solution of international trade problems. Some 52 countries, in addition, have various forms of provisional or associate membership. It was established on January 1, 1948. HEADQUARTERS: Villa le Bocage, 1211 Geneva-10 (Switzerland).

INTER-GOVERNMENTAL MARITIME CONSULTATIVE ORGANISATION (IMCO)—was established on March 17, 1958 as a specialized body to deal with international shipping. It promotes international co-operation in technical aspects of world shipping encourages the highest standards of maritime safety, considers Government shipping restrictions, studies unfair practice in international shipping and provides for exchange of maritime information among Governments. HEADQUARTERS: 22 Berners Street, London W.1.

INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA)—came into being on July 29, 1957. It aims to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world and to ensure, as far as it is able, that assistance provided by it or at its request or under its supervision or control is not used in such a way as to further any military purpose. **HEADQUARTERS:** Kaerntnerring 11-13, A 1010 Vienna-1 (Austria).

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT (IBRD) or WORLD BANK—was established on December 27, 1945. Its purposes are: to assist the economic development of member countries by facilitating investment of capital for productive purposes, and thereby promote growth of international trade and improvement of standards of living; to promote participation in loans and investment made by private investors, and to make loans for productive purposes when private capital is not easily available. **HEADQUARTERS:** 1818 H. St., N.W. Washington 25, D.C.

INTERNATIONAL CIVIL AVIATION ORGANISATION (ICAO)—became a permanent body on April 4, 1947. Making it safer and easier to fly from one country to another is the objective of the I.C.A.O. It encourages the use of safety measures, uniform regulations for the operation of air services and simpler customs immigration and public health procedure at international methods and equipment. **HEADQUARTERS:** International Aviation Buildings, Montreal-3 (Canada).

INTERNATIONAL DEVELOPMENT ASSOCIATION (IDA)—is another affiliate of the International Bank, which came into existence on September 24, 1960. IDA makes loans on terms more flexible than those for more conventional loans, for important development projects in underdeveloped countries irrespective of whether the project so assisted is revenue-producing or directly productive. **HEADQUARTERS:** 1818 H. Street, N.W. Washington 25, D.C.

INTERNATIONAL FUND FOR AGRICULTURAL DEVELOPMENT (IFAD)—The Establishment of the Fund was one of the major actions proposed by the 1974 World Food Conference on 20th Dec. 1976. It came into being on 30th Nov. 1977, to mobilize an additional fund for agricultural and rural developments in developing countries through projects and programmes.

INTERNATIONAL FINANCE CORPORATION (IFC)—was formed on July 20, 1956, to promote economic development by aiding in productive private enterprises in member countries, particularly in the less developed ones; and to invest in new or existing enterprises in conjunction with private capital, and without Government guarantee of repayment in cases where sufficient private capital is not available on reasonable terms; and to bring together private capital and management. The IFC became a specialized Agency of the UN on Feb. 20, 1957. It is affiliated with the World Bank but has its own funds. **HEADQUARTERS:** 1818 H. Street, N.W. Washington 25, D.C.

INTERNATIONAL LABOUR ORGANISATION (ILO)—was established on April 11, 1919, as an autonomous part of the League of Nations and recognised as a specialized agency in 1946 by the UN. The purposes of I.L.O. are—to contribute to the establishment of lasting peace by promoting social justice; to improve, through international action, labour conditions to raise living standards; and to promote economic and social stability. **HEADQUARTERS:** 154, rue de Lausanne, CH-1211, Geneva 22 (Switzerland).

INTERNATIONAL MONETARY FUND (IMF)—is the world's biggest source of readily available international credit, and was established on Dec. 27, 1945 in terms of Articles of Agreement formulated at the Bretton Woods Conference in July 1944. Its purposes are: to promote international monetary co-operation, expansion of international trade and exchange stability and avoid competitive exchange depreciations; to assist in the establishment of multilateral system of payments; and to permit the members, under appropriate conditions, to draw upon the resources of the Fund with a view to shortening the duration and lessening the degree of any disequilibrium which may, from time to time, arise in their balances of payments. **HEADQUARTERS:** 19th and H. Streets, N.W. Washington 25, D.C.

INTERNATIONAL TELECOMMUNICATION UNION (ITU)—was established on January 1, 1934. This is the oldest of the Specialized Agencies going back to a predecessor organisation established in 1865. It is a technical and administrative body for the development and improvement of world-wide communications and is concerned with the improvement of communication equipment and the wider use of telecommunication services and facilities. One of its chief functions is to bring into the use of radio frequencies. **HEADQUARTERS:** Palais des Nations, Geneva (Switzerland).

INTERNATIONAL TRADE ORGANISATION (ITO)—The Interim Commission for International Trade Organisation was set up in 1948, to prepare for the creation of I.T.O. In 1950, it became evident that the creation of I.T.O. would be indefinitely postponed. The small staff of ICITO however, continued to supply services for the contracting parties to the General Agreements on Tariff and Trade. The intention to create ITO has been abandoned, but its work in the field of commercial policy is being undertaken to a large extent through the co-operation of GATT. **HEADQUARTERS:** Palais des Nations, Geneva (Switzerland).

UNITED NATIONS INTERNATIONAL CHILDREN'S EMERGENCY FUND (UNICEF)—was established in 1946, to meet the emergency needs of children, particularly in war-devastated countries. UNICEF is not a specialised agency, but a subsidiary body of the General Assembly reporting to the Economic and Social Council. **HEADQUARTERS:** at UN. New York.

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT (UNCTAD)—The United Nations Conference on Trade and Development, held in Geneva in 1964 and attended by representatives of 120 Governments, recommended action to help the developing countries increase and stabilize their earnings from commodities, expand their exports from manufactured goods and obtain the capital needed for development programmes. It also recommended establishment of permanent United Nations machinery to promote international trade and help accelerate economic growth.

On 30 December, 1964, the United Nations Conference on Trade and Development (UNCTAD), was formally established as permanent organ related agencies. A 55-member Board carries on its functions between Conference sessions.

To help in its search for solutions to specific trade problems, manufactures, shipping and "invisibles" (such as freight and insurance charges and income from tourism) and financing related to trade.

Year-round continuity is provided by an international secretariat headed by a Secretary-General. UNCTAD has headquarters in Geneva and a liaison office in New York.

UNITED NATIONS DISENGAGEMENT OBSERVER FORCE (UNDOF)—On May, 1974, an agreement on disengagement of Syrian & Israeli military force was signed by the party concerned at a meeting and UN force was called to implement the agreement. The Security Council therefore decided to set up an authority line UNDOF.

UNITED NATIONS DEVELOPMENT PROGRAMME (UNDP)—It is the only world's largest channel for multilateral, technical and pre-investment Co-operation. It is active in some 150 developing countries.

UNITED NATIONS DISASTER RELIEF CO-ORDINATION OFFICE (UNDRO)—was established on March, 1972. Its purpose was to Co-ordinate emergency relief.

UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANISATION (UNESCO)—was established on Nov. 4, 1946. Its purposes are: to help combat illiteracy, raise living standards through education, promote collaboration among the nations through education, science and culture in order to further universal respect for justice, for the rule of law and for human rights and fundamental freedoms without the distinction to age, sex, language, race or religion. **HEADQUARTERS:** 9, Place de Fontenoy, Paris-7 (France).

UNITED NATIONS HIGH COMMISSIONER FOR REFUGEES (UNHCR)—The Office of the UNHCR is an integral part of the United Nations. It came into existence on Jan. 1, 1951. Its task is of a social and humanitarian and, therefore, of non-political nature. Its role is to promote, organise, co-ordinate and supervise international action on behalf of the refugees under the High Commissioner's mandate. **HEADQUARTERS:** Palais des Nations, Geneva (Switzerland).

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANISATION (UNIDO)—In order to promote industrial development and to help accelerate the industrialization of developing countries, the General Assembly in 1966 established the United Nations Industrial Development Organization (UNIDO).

In addition to operational activities, which stress aid in the manufacturing sector, UNIDO undertakes action-oriented studies and research programmes on various aspects of industrialization, and co-ordinates the activities of the United Nations family of agencies in the field. UNIDO's headquarters are in Vienna.

UNITED NATIONS INSTITUTE FOR TRAINING AND RESEARCH (UNITAR)—Established in Dec. 1963 by the General Assembly, the United Nations Institute for Training

and Reserach (UNITAR) began operation in 1965. The Institute trains personnel for service with national administration or with United Nations itself, in order to further the objectives of the United Nations system. UNITAR's headquarters are in New York.

UNITED NATIONS RESEARCH INSTITUTE FOR SOCIAL DEVELOPMENT (UNRISD) — was established in 1963 to conduct research into the problems & policies of social development to improve the livelihood of the world's poor and increase their participation in development.

UNIVERSAL POSTAL UNION (UPU) — aims to assure the organisation and perfection of the various postal services and to promote the development of international collaboration. To this end, member countries are united in a single postal territory for the reciprocal exchanges of mail. It was established on July 1, 1875 by the Universal Postal Convention at Berne. HEADQUARTERS: Caisse Postal, Berne-15 (Switzerland).

WORLD HEALTH ORGANISATION (WHO) — came into being on April 7, 1948. Its objective is — the attainment by all peoples the highest possible level of health'. HEADQUARTERS: Palais des Nations, Avenue Appia, 1211 Geneva-27 (Switzerland).

WORLD FOOD PROGRAMME (WFP) — It is mainly involved with food problem sponsored jointly by UN & FAO. The programme seeks to stimulate economic & social developments through aid in the form of food to be used in low income countries as a partial substitute for cash wages.

WORLD METEOROLOGICAL ORGANISATION (WMO) — came into being on March 23, 1950. It aims to promote international co-operation in the field of meteorology and the quick exchange of weather data ; to establish world-wide networks of meteorological stations ; to further the application of meteorology to human activities ; and to encourage research and training in the field of meteorology. HEADQUARTERS: 41, Avenue Giuseppe Motta, Geneva (Switzerland).

INDIAN INFORMATION

HILL STATIONS

	Above Sea level (ft.)		Above Sea level (ft.)
Gulmarg (Kashmir)	8,870	Mussorie (UP)	6,580
Dalhousie (HP)	7,867	Nainital (UP)	6,400
Ootacamund (Tamil Nadu)	7,500	Kasauli (HP)	6,200
Simla (HP)	7,235	Kulu Vally (HP)	5,000
Pahalgam (Kashmir)	7,200	Shillong (Meghalaya)	4,980
Darjeeling (WB)	7,168	Mahabaleswar (Maharashtra)	4,500
Kodaikanal (Tamil Nadu)	7,000	Mount Abu (Rajasthan)	4,500

NOTABLE BRIDGES

	Feet		Feet
Sone Bridge (Bihar)	10,052	Mahanadi Bridge (Orissa)	6,912
Godavari Bridge (Andhra Pradesh)	9,096	Izat Bridge (Allahabad)	6,830
Alexandra (Chenab)	9,088	Ganga Bridge (Mokamah)	6,078

MUSEUMS

Salar Jung Museum — Hederabad	Alwar Museum — Alwar
Archaeological Museum — Hyderabad	Kotah Museum — Kotah
National Museum — Delhi	Bharatpur Museum — Bharatpur
National Art Gallery — Delhi	Jodhpur Museum — Jodhpur
Kumar Art Gallery — Delhi	Victoria Hall Museum — Udaipur
Delhi Fort Museum — Delhi	Ganga Museum — Bikaner

War Memorial Museum — Delhi
 Assam State Museum — Guwahati
 Archaeological Museum — Gwalior
 Central Museum — Jaipur
 Bharat Kala Bhavan — Banaras
 Sarnath Museum — Sarnath
 Prince of Wales Museum — Bombay
 Ajmer Museum — Ajmer
 Fateh Singh Museum — Baroda
 Municipal Museum — Ahmedabad
 Bhavnagar Museum — Bhavnagar
 Junagadh Museum — Junagadh
 Jamnagar Museum — Jamnagar
 Watson Museum — Rajkot
 Government Museum — Madras
 Indore Museum — Indore
 Bhopal Museum — Bhopal
 Sanchi Museum — Sanchi (MP)
 Central Museum — Nagpur

Government Museum — Bangalore
 Indian Museum — Calcutta
 Chamarajendra Art Gallery — Mysore

Nehru Museum — Delhi
 State Museum — Lucknow
 Municipal Museum — Allahabad
 Pratap Singh Museum — Srinagar
 Victoria Memorial Hall — Calcutta
 Asutosh Museum — Calcutta
 Victoria & Albert Museum —
 Bombay
 Baroda Museum — Baroda
 Bangiya Sahitya Parishad —
 Calcutta
 Art in Industry Museum — Calcutta
 Asiatic Society — Calcutta
 Birla Technological &
 Industrial Museum — Calcutta
 Patna Museum — Patna
 Nalanda Museum — Nalanda
 Vaisali Museum — Vaisali (Bihar)
 Bodh Gaya Museum — Bodh Gaya
 (Bihar)
 Orissa State Museum — Bhubaneswar
 Gandhi Memorial Museum — Madurai
 Saraswati Mahal Library — Tanjore

INDIAN OBSERVATORIES

National Observatory
 Kodaikanal Observatory

Hyderabad Observatory
 Sewalik Observatory

HIGHEST HIMALAYAN PEAKS

	Height in ft.	First Climbed in
Everest	29,028	May, 1953 British-New-Zealand
Kanchanjunga	28,208	May, 1955 British
Lhotse	27,923	May, 1956 Swiss
Makalu	27,824	May, 1955 French
Annapurna	26,925	June, 1950 French
Dhaulgiri	26,810	May, 1960 Swiss

SOME SUCCESSFUL EVEREST EXPEDITIONS

- 1953 — Expedition led by Col. John Hunt, reached summit (29,028 ft.) 29th May (reached by TENZING NORGAY and SIR EDMAUND HILLARY).
- 1956 — Swiss Expedition reached summit twice. 23rd and 24th May.
- 1963 — American Expedition led by Norman G. Dyhrenfurth, reached summit on 1st May, Parties reached summit by South Col., 23rd May (reached by JAMES WHITAKER and NOWANG GOMBU).
- 1965 — Indian Expedition led by Commander M.S. Kohli, reached summit (reached by CAPT. A.S. CHEEMA and NOWANG GOMBU on 20th May; by SONAM WANGYAL and SONAM GYATSO on 22nd May; by C.P. VOHRA and ANG KAMI on 24th May; and CAPT. H.S. AHLUWALIA, H.C. RAWAT and PHU DORJI on 29th May).

- 1970— Japanese Expedition (the team led by SABURO MATSUKARA and summit party by HIROMI OHTSHUA) reached summit (reached by TEROO MATSURA and HAOMI UEMURA on 13th May and KATSOUSHI HIRABAYASHI and SHERPA SARLAR CHOOTARE on 14th May).
- 1973— Italian Expedition reached summit twice on 5th and 7th May (reached by MINUZZO, INNAHORAU, BENEDITTI, EPIS and CAREL) Japanese Expedition (reached by HISHAHI ISHIGURA and E. KATO on 26th October).
- 1975— Japanese Women Expedition reached summit (reached by Mrs. FUNKO TABEI).
- 1976— US Expedition (reached by DR. CHRIS CHANDLER and ROBERT CORMAC on 8th October).

HIGHEST INDIAN STRUCTURES

	feet		feet
*Kutab Minar (Delhi)	288	Taj Mahal (Agra)	178
Rajbari Tower (Bombay University)	260	Buland Darwaja (Fathepur Sikri)	176
Brihadeswar Temple (Tanjore)	216	Gopuram of Menakshi Temple (Madurai)	152
Largest Gopuram of Arunachal Temple (Tiruvannamalai)	200	†Ochterloney Monument (Calcutta)	152
Gol Gambuz (Bijapur)	1981/2	Puri Temple (Puri)	142
Gopuram of Ekambarnath Temple (Kanchipuram)	188	4 Minarets of Taj (each)	137
Char Minar (Hyderabad)	186	Lingaraj Temple (Bhubaneswar)	127
Victoria Memorial (Calcutta)	182	Tower of Victory (Chitore)	122
Calcutta High Court	180		

GOVERNOR-GENERALS OF THE INDIAN UNION

Lord Louis Mountbatten 1947-48

C. Rajagopalachari 1948-49

PRESIDENTS OF INDIA

Rajendra Prasad, 1950-62, Dr. S. Radhakrishnan, 1962-67; Dr. Zakir Hussain, 12 May, 1967-3 May, 1969, V.V. Giri, 3 May, 1969-20 July 1969 (ACTING), M. Hidayatullah, 20 July, 1969-24th Aug. 1969 (ACTING), V. V. Giri, 24th Aug. 1969-24th Aug. 1974, Fakhruddin Ali Ahmed, 24th Aug. 1974-11th Feb. 1977, B.D. Jatti, 11th Feb. 1977-10th Aug. 1977, N. Sanjeeva Reddy, 10th Aug. 1977-24th July 1982, Zail Singh, 25 July 1982-24th July 1987, R. Venkataraman, 25th July, 1987.

VICE - PRESIDENTS OF INDIA

Dr. S. Radhakrishnan, 1952-62; Dr. Zakir Hussain, 1962-67; V.V. Giri, 1967-3 May 1969; G.S. Pathak, 31st Aug. 1969-31st Aug. 1974; B.D. Jatti, 31st Aug. 1974-31st Aug. 1979; M. Hidayatullah, 31st Aug. 1979-30th Aug. 1984, R. Venkataraman, 31 Aug. 1984-24 July, 1987; Dr. Shankar Dayal Sharma, 3rd Sept. 1987.

CHIEF JUSTICES OF SUPREME COURT OF INDIA

Sir Harilal Kania, A.M. Patanjali Sastri, Mehr Chand Mahajan, Bijan Kumar Mukherjee, Bhubaneswari Prasad Sinha, Sudhi Ranjan Das, P.B. Gajendragadkar, Amal Kumar Sarkar, Koka Subba Rao, Kailash Nath Wanchoo, M. Hidayatullah, J.C. Shah, S.M. Sikri, Ajit Nath Ray, M.H. Beg, Y.V. Chandrachud, P.N. Bhagwati, Sabyasachi Mukherjee

*379 Steps. †Renamed as 'Sahid Minar' on August 9, 1969.

INDIAN PARLIAMENT

LOK SABHA :

- Speaker : G.V. Mavlankar, 1952-56
 M. Ananthasayanam Ayyanger, 1956-62
 Hukum Singh, 1962-67
 N. Sanjeeva Reddy, 1967-69
 G.S. Dhillon, Aug. 1969-30 Nov. 1975
 B.R. Bhagat, Dec. 1975-March 1977
 N. Sanjeeva Reddy, March 1977-July 1977
 K.S. Hegde, July 1977-79
 Balaram Jhakkar, 1980-Nov. 1989.
 Rabi Ray- Dec, 1989

RAJYA SABHA :

- Chariman : Dr. S. Radhakrishnan, 1952-62
 Dr. Zakir Hussain, 1962-67
 V.V. Giri, 1967-3 May 1969
 G.S. Pathak, 31st Aug. 1969-31st Aug. 1974
 B.D. Jatti, 31st Aug. 1974-31st Aug. 1979
 M. Hidayatullah, 31st Aug. 1979-30 Aug. 1984
 R. Venkataraman, 31st Aug. 1984-24 July. 1987
 Dr. Shankar Dayal Sharma, 3rd Sept. 1987-

PRIME MINISTERS OF INDIA

- Jawaharlal Nehru, 15 Aug. 1947-27 May. 1964
 Gulzarilal Nanda, 27 May-9 June, 1964 (Care-taker Govt.)
 Lal Bahadur Shastri, 9 June 1964-11 January, 1966
 Gulzarilal Nanda, 11 Jan, 1966-24 Jan, 1966 (Care-taker Govt.)
 Smt. Indira Gandhi, 24 Jan, 1966-22nd March, 1977
 Morarji Desai, 24 March, 1977-8th July, 1979
 Charan Singh, 21st July, 1979-20 Aug. 1979
 Smt. Indira Gandhi, 14 Jan, 1980-31st October, 1984
 Rajiv Gandhi, 31 October, 1984-2nd December, 1989.
 Vishwanath Pratap Singh, 2nd December, 1989-

MILITARY CHIEFS OF INDIA

Army

- Gen. Sir R.M. Lockhart, 1948
 Gen. F.R.R. Bucher, 1948
 Gen. K.M. Cariappa, 1949
 Gen. Rajendra Singh, 1953
 Gen. S.M. Srinagesh, 1955
 Gen. K.S. Thimmaya, 1957
 Gen. P.N. Thapar, 1962
 Gen. J.N. Chaudhury, 1962

- Gen. P.P. Kumaramangalam, 1966
 Gen. S.H.F.J. Manekshaw, 1969
 Gen. G.G. Bewoor, 1973
 Gen. T.N. Raina, 1975
 Gen. O.P.M. Malhotra, 1978
 Gen. K.V. Krishna Rao, 1981
 Gen. A.S. Vaidya, 1985
 Lt. Gen. K. Sundarji, 1986
 Lt. Gen. V.N. Sharma, 1988

Navy

- Vice-Admiral Sir E. Perry, 1984
 Vice-Admiral C.T.M. Pizey, 1951
 Vice-Admiral S.H. Carlill, 1955
 Vice-Admiral R.D. Katari, 1958
 Admiral B.S. Soman, 1962
 Admiral A.K. Chatterjee, 1966

- Admiral S.M. Nanda, 1970
 Admiral S.N. Kohli, 1973
 Admiral J. Cursetji, 1976
 Admiral R.L. Pereira, 1978
 Admiral O.S. Dawson, 1981
 Admiral R.H. Tahilian, 1985
 Vice-Admiral J.G. Nadkarni, 1987

Air Force

Air Marshall R.J. Chapman, 1948
 Air Marshall G.E. Gibbs, 1951
 Air Marshall S. Mukherjee, 1954
 Air Marshall A.M. Engineer, 1960
 Air Chief Marshall Arjan Singh, 1964
 Air Chief Marshall P.C. Lal, 1969
 Air Chief Marshall O.P. Mehra, 1973

Air Chief Marshall H. Mulgaonkar, 1975
 Air Marshall Idris Hassan Latif, 1978
 Air Marshall Dilbagh Singh, 1981
 Air Chief Marshall Denis Anthony La Fontaine, 1985
 Air Chief Marshall Surendra Kumar Mehra, 1988

INDIAN FELLOWS OF THE ROYAL SOCIETY

1841—A. Carstji
 1918—S. Ramanujam
 1920—Sir J.C. Bose
 1924—C.V. Raman
 1927—Meghnad Saha
 1936—Birbal Sahani
 1940—K.S. Krishnan
 1960—T.R. Seshadri
 1965—P. Maheswari

1941—H.J. Bhabha
 1943—S.S. Bhatnagar
 1945—S. Chandrasekhar
 1945—P.C. Mahalanobis
 1957—D.N. Wadia
 1958—S.N. Bose
 1958—S.K. Mitra
 1967—C.R. Rao
 1970—M.G.K. Menon
 1973—M.S. Swaminathan

INDIAN IN THE BRITISH PARLIAMENT

Dadabhai Naoroji (Liberal)
 Sir M.M. Bhowanagree (Conservative)
 Sapurji Saklatwala (Communist)
 Lord S.P. Sinha (House of Lords)
 Lord A.K. Sinha (House of Lords)
 Lord Sudhindra Prasanna Sinha (House of Lords)

INDIAN PRIVY COUNCILLORS

1909—Syed Ameer Ali
 Sir B.C. Mitter
 1921—V.S. Srinivasa Sastri
 1926—Lord S.P. Sinha
 1930—Sir D.F. Mulla

1931—Sir Shadilal
 1934—Sir Tej Bahadur Sapru
 1934—H.H. The Aga Khan
 1936—Sir Akbar Hydari
 1939—Dr. M.R. Jaykar
 1941—Sir C. Madhavan Nair

INDIAN MEMBER OF THE US CONGRESS

Dilip Singh Saund (Democratic)

INDIAN NOBEL PRIZE WINNERS

1913—Rabindranath Tagore
 (Literature)
 1930—Sir C.V. Raman (Physics)

1968—Dr. Hargovind Khurana
 (Physiology & Medicine)
 1979—Mother Teresa (Peace)

INDIAN LENIN PEACE PRIZE WINNERS

1952—Dr. Safiuddin Kitchlu	1960—Mrs. Rameswari Nehru
1953—Maj. Gen. S.S. Sokhey	1964—Aruna Asaf Ali
1958—Sir C.V. Raman	1968—Ramesh Chandra

NATIONAL DAYS

Army Day—15th January	Teacher's Day—5th September
Republic Day—26th January	Mahatma Gandhi's Birthday—
Martyr's Day—30 January	2nd October
Maritime Day—4th April	Children's Day—14th November
Independence Day—15 Aug	Territorial Army Day—18th Nov.
Navy Day—21st December	

FIRST IN INDIA

Largest Lake—Wular (Kashmir)
Highest Peak—Nanda Devi (25,645 ft.)
Largest Populated City—Greater Calcutta.
Highest Rainfall—at Cherrapunji (Meghalaya), yearly 420 inches in average.
Largest Delta—Sundarban Delta (8,000 sq. miles).
Longest Bridge—Sone Bridge (10,052 ft. long)
Longest Barrage—Sone (4,616 ft.).
Longest Cantilever Span Bridge—Howrah Bridge (2,150 ft.)
Largest Cave Temple—Ellora (Maharashtra).
Longest Corridor—Rameshwaram Temple's Corridor (4,000 ft.)
Largest Mosque—Jumma Masjid, Delhi.
Highest Dam—Bhakra Nangal Dam, Punjab (740 ft. high).
Highest Gateway—Buland Darwaja, Fatehpur Sikri (176 ft. high)
Tallest Statue—Statue of Gomateswara, Karnataka (57 ft. high)
Longest Platform—Kharagpur Platform, SE Railway (2,733 feet)*
Longest Road—Grand Trunk Road (1,500 miles)
Highest Tower—Kutab Minar, Delhi (288 ft. high)
Largest Dome—Gol Gumbaz, Bijapur (144 ft. in exterior diameter)
Biggest Zoo—Zoological Gardens, Calcutta (270 acres in area)
Biggest Museum—Indian Museum, Calcutta*
Largest State—Madhya Pradesh, (1,71,217 sq. miles)
Largest Forest State—Assam
Most populated State—Uttar Pradesh (88,364,779 in 1971)
Most Literate State/Territory of India—Chandigarh (61.24 p.c.)
Longest Tunnel—Jawahar Tunnel, linking Punjab and Kashmir.
1 3/4 miles long.
Longest Dam—Hirakud Dam, Orissa (15,748 miles)*
Highest Waterfalls—Jog Falls (Karnataka) 960 ft.

FIRST BEGINNING IN INDIA

1781—First Newspaper—Hickey's Calcutta Gazette on 29 January.
1825—First issue of Postal Stamp in India in Sind.
1851—First Official Telegraph Line between Calcutta and Diamond Harbour (24 prgs) in October.

* Also In The World

- 1853 — First Indian Railway, Bombay to Thana on 16th April.
 1854 — First Postage Stamp in India on 1st Oct.
 1887 — First Modern Steel Plant at Kulti.
 1897-98 — First Hydro-electric Station set up at Darjeeling.
 1911 — First Air-mail in India and the world from Bombrauli to Naini (Allahabad) 6 miles.
 1925 — First Electric Train Service between Bombay and Kurla.
 1927 — Wireless Broadcasting by a private company at Bombay.
 1929 — First issue of Air Mail Stamp.
 1956 — First large-scale nuclear reactor Apsara was put into operation on 4th August.
 1974 — First nuclear device exploded on 19th May.

FIRST AMONG INDIANS

- First visited England — Raja Rammohun Roy, (1832)
 Governor — Lord S.P. Sinha
 F.R.S. — A. Carsetji
 Congress President — W.C. Bonerjee (1885)
 Nobel Prize Winner — Rabindranath Tagore (1913)
 Member, House of Lords — Lord S.P. Sinha of Raipur
 Field-Marshal — S.H.F.J. Manekshaw
 Commander-in-Chief — General K.M. Cariappa
 Naval Chief — Vice-Admiral R.D. Katari
 Air Chief — Air Marshall Subrata Mukherjee
 I.C.S. — Satyendranath Tagore
 First in I.C.S. Examination — Sir Atul Chandra Chatterjee
 Member, British Parliament — Dadabhai Naoroji
 Bar-at-Law — J.M. Tagore
 Judge, High Court — Ramaprased Roy
 Baronet — Sir Cawasji Jehangir
 Governor — General of India — C. Rajagopalachari (1948-49)
 President of India — Dr. Rajendra Prasad
 Lenin Peace Prize Winner — Dr. Safiuddin Kitchlu (1952)
 Member, Viceroy's Executive Council — Sir S.P. Sinha
 Member, India Council — Sir K.G. Gupta
 Peer of the British Realm — Lord S.P. Sinha
 Contested for membership of the British Parliament — Lalmohan Ghosh
 Member of the US Congress — Dilip Singh Saund
 Wrangler, Cambridge University — A.M. Bose
 Test Cricket Player — K.S. Ranjitsinji
 Everest Climber — Tenzing Norgay
 Winner of Victoria Cross — Khudadad Khan
 Member, Privy Council — Syed Ameer Ali
 I.M.S. — Dr. Goodeve Chukravarti
 Woman Governor — Sarojini Naidu
 Woman M.A. — Chandramukhi Bose
 Woman M.B. — Virginia Mary Mitra
 Woman Doctor — Kadambini Ganguli
 Woman President of the Congress — Sarojini Naidu (1925)
 Woman High Court Judge — Anna Chandi (Kerala)
 Woman President of UN — Vijayalakshmi Pandit (1953-54)
 Woman Minister of a State — Vijayalakshmi Pandit (UP)
 Woman Chief Minister — Sucheta Kripalani (of UP. 1963-67)

Woman Prime Minister—Mrs. Indira Gandhi (1966-67)
 Woman Parachutist—Gita Chanda
 Woman Speaker—Sushila Nayar (Delhi)
 Woman Mayor—Sulochona Modi (Bombay)
 Woman Ambassador—Vijayalakshmi Pandit (to USSR 1947-49)
 Woman Pleader—Regina Guha
 Woman Barrister—Cornelia Sorabji

CONSTITUTION OF INDIA

SOVEREIGN DEMOCRATIC REPUBLIC—The Constitution of India which came into force on January 26, 1950, resolves to establish a Sovereign Socialist Secular Democratic Republic.

The Preamble embodies the resolve of the people of India to secure for all citizens:

JUSTICE, social, economic and political;

LIBERTY of thought, expression, belief, faith and worship;

EQUALITY of status and of opportunity; and promote among them all;

FRATERNITY, assuring the dignity of the individual and the unity and integrity of the Nation.

STATES AND TERRITORIES—the following are the States of India, each, with a Governor as its head; Andhra Pradesh, Assam, West Bengal, Bihar, Maharashtra, Gujarat, Haryana, Himachal Pradesh, Madhya Pradesh, Tamil Nadu, Orissa, Punjab, Uttar Pradesh, Kerala, Rajasthan, Karnataka, Jammu & Kashmir, Nagaland, Meghalaya, Manipur, Tripura and Sikkim.

UNION TERRITORIES—Delhi, Andaman & Nicobar Islands, Lakshadweep, Pondichery, Mizoram, Arunachal Pradesh, Dadra and Nagar Haveli, Goa, Daman & Diu, Chandigarh and such territories as may be acquired.

Fundamental Rights—Fundamental Rights have been grouped under the following seven heads—

RIGHTS TO EQUALITY—Discrimination against any citizen on ground of religion, race, caste, sex or place of birth is prohibited. In public employment, the Constitution assures equality to opportunity for all. It has established social equality by abolition of title, local and foreign.

RIGHTS TO FREEDOM—guarantees: (a) freedom of speech and expression, (b) to assemble peacefully and without arms, (c) to form associations or unions, (d) to move freely throughout India, (e) to reside and settle in any part of India, (f) to acquire, hold and dispose of properties, (g) to practice any profession, trade or business.

RIGHTS AGAINST EXPLOITATION—Traffic in human beings is declared a punishable offence. So too is begar (forced labour) without payment or any form of forced labour except compulsory service for the State for public purposes.

FREEDOM OF RELIGION—Subject only to public order, morality, health and some other essential provision, all persons are equally entitled to freedom of conscience and the right to profess, practice and propagate religion freely.

CULTURAL AND EDUCATIONAL RIGHTS—The Constitution provides for the protection of the interests of linguistic, cultural and religious minorities and their right to establish and administer their educational institutions.

RIGHTS TO PROPERTY—No person shall be deprived of his property, movable or immovable.

RIGHTS TO CONSTITUTIONAL REMEDIES—The Constitution guarantees the right to every citizen to move the Supreme Court for the enforcement of all fundamental rights. And for that purpose the Supreme Court is given general powers to safeguard these rights as well as the power to propose particular remedies, such as habeas corpus, mandamus, quo warrant, etc.

DIRECTIVE PRINCIPLES OF STATE POLICY—The Indian Constitution lays down certain Directive Principles of State Policy enjoining the State to undertake within its means, a number of welfare measures. These are intended to assure citizens and adequate means of

livelihood, raise and standard of living, improve public health, provide free and compulsory education for children, and assure that the operation of the economic system does not result in the concentration of wealth and means of production to the detriment of the common good. These principles, though not enforceable through courts of laws, are regarded as fundamental in the governance of the country.

FUNDAMENTAL DUTIES—The 42nd Amendment Act (1976) has incorporated into the Constitution a new chapter on Fundamental Duties. The Duties for an Indian citizen thus enshrined, include—(a) to abide by the Constitution and respect its ideals & institutions, the National Flag & National Anthem; (b) to cherish and follow the noble ideals which inspired our freedom struggle; (c) to uphold the sovereignty, unity & integrity of India; (d) to render national service when called for; (e) to promote harmony & spirit of common brotherhood amongst all Indians; and renounce practices derogatory to the dignity of women; (f) to preserve the rich heritage of our composite culture; (g) to protect & to have compassion for living creatures; (h) to develop the scientific temper, humanism and the spirit of enquiry & reform; (i) to safeguard public property and to abjure violence; (j) to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour & achievement.

FRANCHISE—The Constitution confers the right of vote to every person who is a citizen of India and who is not less than 21 years age (now 18 years) on a fixed date and is not otherwise disqualified under the Constitution or any law of the appropriate legislature on any ground of non-residence, unsoundness of mind, crime or corruption or illegal practice.

Citizenship—The Constitution provides for single and uniform citizenship for the whole of India. Birth within the territory of India, descent from Indian parents or residence for a period of five years at the commencement of the Constitution, entitles one to be a citizen of India. Displaced persons from Pakistan are also enabled to become citizens after fulfilling certain conditions. Persons of themselves as such with Indian diplomatic consular agencies in the Indian origin residing abroad can also become citizen by registering countries of their residence. No such persons who voluntarily acquires the citizenship of any foreign State is entitled to this right.

UNION—India is a Union of 22 federal States and 9 centrally-administered Territories with the President as the head of the Union and the Governors as the head of the States.

UNION EXECUTIVE—The Union Executive consists of the President, Vice-President, and a Council of Ministers with Prime Minister at its head.

(A) PRESIDENT—the President is the executive head of the Republic. All the executive powers of the Union including the Supreme Command of the Defence Forces, are formally vested in the President and all executive actions are taken in his name. He is elected by an Electoral College consisting of the elected members of both Houses of Parliament and Legislative Assemblies of the States, by the system of proportional representation by single transferable vote.

The Qualification For The Office Of The President—(1) He should be a citizen of India; (2) must have completed the age of 35 years; and (3) qualified for election as a member of the People. He will not be eligible for election if he holds a job in Government, giving him financial rewards.

Terms of office—The President holds office for five years and is eligible for re-election.

Salary and Allowances—The President draws a salary of Rs 10,000 per month and other allowances and privileges.

Impeachment—The President may be removed from his office by impeachment for violation of the Constitution.

(B) VICE-PRESIDENT—is the ex-officio chairman of the Rajya Sabha. Any citizen of India aged thirty-five years and above and qualified for the membership of Rajya Sabha, can be elected to this office by both Houses of Parliament at a joint sitting on the basis of proportional representation by single transferable vote. His term of office is for five years. When the President is ill, or if he resigns or dies or is removed or is for any reason absent, his place will be taken by the Vice-President, till a new President is elected. The Vice-President may be removed from his office by a resolution of the Rajya Sabha passed by a majority of all the members of the Rajya Sabha and agreed to by the House of the People (Lok Sabha).

(C) COUNCIL OF MINISTERS—The Constitution provides for a council of Ministers to aid and advise the President. The actual executive authority is discharged by the Prime Minister and the Council of Ministers appointed by him; all of them are collectively responsible to the Lok Sabha. The Council of Ministers holds office during the pleasure of the President.

The Council of Ministers as at present constituted comprises (i) Ministers who are members of the Cabinet, (ii) Ministers of State who are not Ministers of the Cabinet but hold Cabinet rank and (iii) Deputy Ministers.

(D) ATTORNEY-GENERAL OF INDIA—is appointed by the President and shall hold office during the pleasure of the President to give advice on such legal matters and to perform such other duties of a legal character as may from time to time be referred to him.

LEGISLATURE (PARLIAMENT)—The Legislature of the Indian Union consists of the President and two Houses—(1) Lok Sabha (House of the People) and (2) Rajya Sabha.

LOK SABHA—consists of members directly elected from the territorial constituencies in the States. The number of seats for each State is so allocated that the ratio between the number and population of the State is as far as possible, the same for all States. Up to 1980 the President can nominate 2 members to the House of the People to represent Anglo-Indian community. Unless dissolved sooner, the term of the House is five years from the date of its first meeting.

RAJYA SABHA—consists of not more than 250 members, of whom 12 are nominated by the President and the rest are elected. The nominated members should be men of learning and wide experience, such as artists, writers, scientists and social workers. The Rajya Sabha is not subject to dissolution, a third of its members retiring after two years. The election to the Sabha are indirect, the allotted quotas of the representative of each State being elected by the elected members of the Legislative Assembly of the State in accordance with the system of proportional representation by means of a single transferable vote. The Vice-President of India is the ex-officio Chairman of the Rajya Sabha.

POWER AND PRIVILEGES OF THE PARLIAMENT—The Constitution confers certain powers and privileges on members of the House of Parliament. No members of Parliament "shall be liable to any proceedings in any court in respect of anything said or any vote given by him in Parliament or any committee thereof, and no person shall be so liable in respect of the publication by or under the authority of either House of Parliament of report, paper, votes or proceedings. The powers, privileges and immunities of members of each House of Parliament shall be such as may from time to time be defined by Parliament by law and until so defined, shall be those of the House of Commons of the Parliament of the United Kingdom, and of its members and committees".

The difference between the Lok Sabha and the Rajya Sabha is as follows:

The difference is not merely in their size. The powers given to them are not same. The function of both is to legislate but the greater part of this responsibility will be borne by the Lower House. A bill has to be passed by both the Houses before it becomes a law. In case there is a disagreement between the two Houses, a joint session of the Houses is summoned to resolve the deadlock. The opinion of the Lower House will ultimately prevail owing to its numerical majority. But it is to be noted here that procedure regarding deadlock relates only to bills other than money bills, for, as regards money bills, the provision of the Constitution is that sole power shall belong to the Lower House. Money bills cannot be introduced in the Rajya Sabha. They must, as a rule, originate in the House of the People (Lok Sabha).

Judiciary—The Supreme Court of India consists of a Chief Justice and 14 judges appointed by the President. The judges hold office till the age of 65.

The Supreme Court decides disputes between the Government of India and any State or States, or between two more States involving any question of law or fact. Civil and criminal appeals of a certain kind from High Courts will also be heard by it. The Supreme Court, is also competent to order the enforcement of Fundamental Rights. It has also Advisory Jurisdiction by which the President can refer to it any question of public importance. The law declared by it is binding on all courts of the country. There is High Court in each State, which stands at the head of the State's judicial administration. Each High Court consists of a Chief Justice and a number of judges appointed by the President. Judiciary is independent of the executive and the legislature.

COMPTROLLER AND AUDITOR-GENERAL—Articles 148 and 151 provide for the appointment of a Comptroller and Auditor-General of India by the President to keep watch on the accounts of the Union and the States. His reports, submitted to the President and the Governors of States, are laid before each House of Parliament and the Legislatures of States respectively.

STATE GOVERNORS—The State Executive consists of the Governor and a Council of Ministers with a Chief Minister as its head. He is appointed by the President and holds office during his pleasure. Any citizen of India who has completed 35 years of age, is eligible for the appointment as Governor. The Governor holds office for a term of five years unless he resigns earlier. Besides official residence, Governor draws a salary of Rs. 5,000 per month and other allowances and privileges.

The Governor is assisted by a council of Ministers with Chief Minister at the head of the Council to aid and advise the Governor. The Chief Minister is appointed by the Governor and the other Ministers are also appointed by him on the advice of the Chief Minister. Ministers hold office during the pleasure of the Governor. The Council of Ministers is collectively responsible to the Legislative Assembly of the State.

STATE LEGISLATURES—In every State the Legislature consists of the Governor and the two Houses. Legislative Council and Legislative Assembly (except in case of Assam, Gujarat, Haryana, Orissa, Punjab, Rajasthan and West Bengal, which have only one House—the Legislative Assembly).

The Legislative Assembly (Bidhan Sabha) of each State is elected by direct election on the basis of adult franchise. The total number of the Assembly members shall in no case be more than 500 or less than 60 chosen by direct election. Its normal life is five years. Some seats may be reserved for Scheduled Castes. The Governor may also nominate the representatives of Anglo-Indian community.

The total number of members of the Legislative Council (Bidhan Parishad) of a State is not to exceed one-third of the total members in the Legislative Assembly of that State but in no case shall be less than 40. This is permanent body; one-third of its members retire every second year. Half of its members are elected from local bodies from among the graduates of three years' standing and teachers who have worked for at least three years. A third of the members are elected by the Legislative Assembly from among non-members and the rest are nominated by the Governor from among men of eminence in literature, art, science or social service.

The Legislative Assembly alone has power to originate bills. The Legislative Council can make only recommendations in respect of changes within a period of 14 days of the receipt of the bill from the Assembly. This should in no way affect the freedom of the Assembly to accept or reject the recommendation of the Council.

STATE JUDICIARY—The Constitution envisages a High Court for each State. The High Court consists of a Chief Justice and such other judges as the President may from time to time deem it necessary to appoint. The Chief Justice of a High Court is appointed by the President, in consultation with the Chief Justice of the Supreme Court and the Governor of the State. The procedure for appointing other judges is the same except that the Chief Justice of the High Court concerned is consulted. They hold office until they attain the age of 62 years and are removable from office in the same manner as a judge of the Supreme Court.

Under Article 226, every High Court has the power to issue to any person or authority, including any Government within its jurisdiction, directions, orders, or writs including writs which are in the nature of habeas corpus, mandamus, prohibition, quo warrant and certiorari or any of them for enforcement of any rights conferred by Part II of the Constitution and for any other purpose. High Courts have powers of superintendence over all courts and tribunals within their jurisdiction.

UNION TERRITORIES—In the place of centrally-administered Part 'C' States, the Constitution (7th Amendment) Act of 1956 substituted the category of Union Territories. The Union Territories include Delhi, Andaman & Nicobar Islands, Lakshadweep, Dadra and Nagar Haveli, Goa, Daman and Diu, Pondicherry, Chandigarh, Mizoram and Arunachal Pradesh.

The Constitution (14th Amendment) Act of 1963 creates legislatures in Union Territories. At present the Act, relates to the territories of Goa, Daman and Diu, Mizoram and Pondicherry.

ry. They have legislatures. The Act also provides that the number of states allocated to Union Territories in the Lok Sabha be increased to a maximum of 25.

RELATION BETWEEN UNION AND THE STATES—Parliament can legislate for the whole or any part of the territory of India and the Legislature of a State for whole or any part of the State. No law, however, made by the Parliament can be considered invalid on the ground of extra-territorial jurisdiction. For the purpose of distributing legislative powers between the Centre and the States, three comprehensive lists have been drawn up—(1) Union List, (2) Concurrent List and (3) State List.

The Parliament has "executive power" to make laws in regard to the matters mentioned in the first list, i.e., Union List. The Concurrent List means that matters shared between the Union and the States, such as criminal law, civil procedure, preventive detention, marriage and divorce, transfer of property other than agricultural lands, contracts, bankruptcy.

There are 66 items in the State List. Some of them are police administration of justice, prisons, local Government, public health and sanitation, forests, fisheries, etc. The Legislature of a State has "exclusive powers" to make laws in matters mentioned in this List.

Jurisdiction over all other matters not mentioned in the Concurrent and State Lists belongs to the Parliament. This means that the Union acquires residuary powers.

As regards Administrative Relations, the executive powers of every State shall be so exercised as to ensure compliance with the laws made by the Parliament and any existing laws which apply in the State, and the executive power of the Union shall extend to the giving of such direction of the State as may appear to be necessary for that purpose.

Union executive is empowered to give direction to a State regarding construction and maintenance of the means of communication declared to be of national or military importance. Parliament can declare certain highways or waterways to be national highways or waterways. Union executive can also construct and maintain means of communication required in connection with naval, military and airforce works. The President may, with the consent of the Government of a State, entrust to that Government functions in relations to any matter to which the executive power of the Union exists.

INTER-STATE COUNCIL—The President has power to establish an Inter-State Council to investigate and discuss subjects of common interest between the State and the Union, to enquire and advise upon Inter-State disputes and to impart greater cohesion to the federal structure and to harmonize the relation between the units.

ZONAL COUNCILS—have been established by the State Reorganisation Act of 1956 to advise on matters of common interest to each of the five-zones into which territory of India has been divided.

ELECTION—the superintendence, direction and control of election to Parliament and legislatures of every State and of President and Vice-President including appointment of an Election Tribunal, is vested in an Election Commission to be appointed by the President. The chief election Commissioner cannot be removed from his office except in the same manner as and on the like ground as judge of the Supreme court.

There is only one general electoral roll for every territorial constituency and no person is ineligible for inclusion in such roll on ground only of religion, race, caste, sex or any of them.

BACKWARD CLASSES—Article 15 prohibits discrimination against any citizen on grounds of only religion, caste or the like. Art. 20(2) guarantees that no citizen shall be denied admission into any State—owned or State aided educational institution on grounds only of religion, or the like. Art. 16 guarantees equality of opportunity to all citizens in the matter of employment under the State.

The Constitution makes special provision for the representation of the Scheduled Caste and Tribes in the House of the people and in the Legislative Assemblies of the States and also for the consideration of their special classes in the matter of appointments.

FINANCIAL AND OTHER PROVISIONS—There is a provision in the Constitution for setting up of a Finance Commission to make recommendation to the President as to the distribution between the Centre and the States of the net proceeds of certain taxes (like the income-tax, excise duties, some export duties, etc.), and the allocation between the State of such proceeds.

The Central and State Government are required to set up respectively the Consolidated Fund of India and the Consolidated Fund of the State. All revenue received by the Govern-

ment of India and the Government of a State are to be credited into their respective consolidated funds. No money is to be appropriated from the Consolidated fund of India or of a State except in accordance with an Appropriation Act passed by the Parliament or the Legislature of the State concerned. Provision has also been made for the establishment of a Contingency Fund of India and a Contingency Fund for each State to meet unforeseen expenditure pending proper authorisation by the appropriate legislature.

SUPPLEMENTARY ESTIMATES—are distinguished from estimate which are included in the Annual Financial Statement or Budget. Notwithstanding the grant of annual estimates, the need for supplementary or additional grants may arise when the amount specified in the annual estimate is found insufficient for the current year for some new service.

TRADE AND COMMERCE—The Constitution provides for the broad principles of freedom of trade, commerce and intercourse throughout the territory of India. The Union Parliament and the State Legislatures are, however authorised to prescribe limitations when there is scarcity of any particular commodity or for any other consideration of national or public interest. Subject to these restrictions, the State Legislatures are empowered to impose reasonable restrictions on the freedom of trade, commerce or intercourse in the public interest. The Parliament has also power to appoint any authority to enforce the foregoing provisions.

EMERGENCY AND SPECIAL PROVISIONS—If, at any time, the President of India is satisfied that there arisen a grave emergency created by war or external aggression or internal disturbance which threatens the security of India or any part of its territory, he can by declaration (a) give direction to Constituent States as to how the authority is to be exercised and (b) suspend from operation several Articles (268 to 280) of the Constitution. Another occasion on which the President can by proclamation assume to himself all or any of the function of the Government of a State is the event of failure of the State's constitutional machinery.

OFFICIAL LANGUAGE—Article 343 of the Constitution provides that the official language of India shall be Hindi in the Devnagri script and the form of numbers for official purposes shall be the international form of Indian numerals. English, which was originally to continue as the official language up to January 26, 1965, will, under the Official Languages Act, 1963, continue to be used even after that in addition to Hindi.

AMENDMENT OF THE CONSTITUTION—Article 368 provides for the amendment of the Constitution. The Constitution shall stand amended when the President gives assent to any bill for the purpose, after it is passed in each House of Parliament by a majority of not less than two-thirds of the members of the House present and voting. The only provision for the amendment, of which ratification by the Legislatures of not less than one-half of the State has also been prescribed, relates to the Supreme Court and High Courts, the distribution of legislative powers between the Centre and the States, the representation of the States in Parliament and the procedure for amendment of the Constitution.

Since the inauguration of the Constitution on January 25, 1950, there have been a number of Amendments of the Constitution.

1. **CONSTITUTION (FIRST AMENDMENT) Act, 1951**—By this, besides making minor changes in Articles 15, 19, 85, 87, 174, 176, 341, 342, 372, and 375, it added two new Articles 31A and 31B and the 9th Schedule.

By an amendment of clause (2) of Article 19, it has permitted reasonable restriction to be imposed by law on the exercise of the right of freedom of speech and expression on the ground of incitement of an offence. An amendment of clause (6) of Article 19 has, however removed from the scope of judicial review; or on ground of reasonableness, restrictions imposed on the right of citizens to carry on any trade, business, industry of service where such restrictions have been imposed with a view to enabling the State to undertake any scheme of nationalisation.

To Article 15, sub-clause (4) as inserted stating that the State can make special provision for the advancement of any socially and educationally backward classes or for the Scheduled Castes and the Scheduled Tribes.

Two new Articles, 31A and 31B, were inserted. Article 31A provides that no law providing for the requisition by the State of any estate or of any rights therein or for the extinguishment or modification of any such rights shall be deemed to be void on the ground that it is inconsistent with, or take away or abridges any of the rights conferred by any provisions of this Part (III).

To preserve the Zamindari Abolition Acts by various States in India Article 31B provides that none of the Acts and Regulations specified in the Ninth Schedule nor any of the provisions thereof shall be deemed to be void, or even to have become void, on the ground that such Act, Regulation or Provision is inconsistent with, or takes away or abridges any of the rights conferred by any provisions of part III, and notwithstanding any judgement, decree or order of any tribunal to the contrary, each of the said Acts and Regulations shall continue in force.

2. CONSTITUTION (SECOND AMENDMENT) ACT, 1862—amended Article 81 for readjusting the scale of representation in the House of People, necessitated by the completion of the 1951 census.

3. CONSTITUTION (THIRD AMENDMENT) ACT, 1954—substituted entry 33 of the Concurrent List in the 7th Schedule by a new one, including foodstuff, cattle fodder, raw cotton and jute as additional items, whose production and supply can be controlled by the Centre, if expedient in the public interest.

4. CONSTITUTION (FOURTH AMENDMENT) ACT, 1955—amended Articles 31, 31A, and 305 and added a few more entries to the 9th Schedule. The amendment of Art. 31(2) provides that when the State compulsorily acquires private property for a public purpose, the scale of compensation prescribed by the authorising legislation would not be called in question in a Court. The Article 31A was amended so as to exclude the temporary taking over a property by the State, either in the public interest or to secure its better management from the compensation clause. The amendment of Art. 305 was in the nature of a saving clause for laws providing State monopolies. 7 new entries were added to the 9th Schedule.

5. CONSTITUTION (FIFTH AMENDMENT) ACT, 1955—substituted the provisions to Art. 3 by a new one, empowering the President to fix a time limit by State Legislatures to express views on proposed Central laws affecting the area and boundaries, etc. of their respective States.

6. CONSTITUTION (SIXTH AMENDMENT) ACT, 1956—added a new entry 92A to the Union List of the 7th Schedule relating to taxes on the sale and purchase of goods in the course of inter-States transactions and the relevant clauses under Articles 269 and 286 on the same subject.

7. CONSTITUTION (SEVENTH AMENDMENT) ACT, 1956—was passed for the reorganisation of the States. It involved not only the establishment of new States and alterations in States boundaries but also the abolition of three categories of the States and the classification of certain areas as Union Territories. This led to the amendment of Article 1 and the First Schedule to the Constitution. Among the other important Articles which were affected by this Amendment were Articles 81 and 82 which were substituted by new ones; Article 131 on the original jurisdiction of the Supreme Court; Article 168 providing for bicameral legislatures in certain States; and Articles 216, 217, 220, 222 and 224 dealing with High Courts. Two new Articles 350A and 350B were added to implement the recommendations of the State Reorganisation Commission regarding constitutional safeguards for linguistic minorities.

8. CONSTITUTION (EIGHTH AMENDMENT) ACT, 1959—amended Article 334 so as to extend the special provision relating to reservations of seats for the Scheduled Castes and the Scheduled Tribes and representation of Anglo-Indian by nomination in the House of the People and Legislative Assemblies of States, for a further period of ten years from January 26, 1960.

9. CONSTITUTION (NINTH AMENDMENT) ACT, 1961—amended the First Schedule to the Constitution to give effect to the transfer of certain territories to Pakistan in pursuance of the agreement between the Government of India and Pakistan in September 1958.

10. CONSTITUTION (TENTH AMENDMENT) ACT, 1961—incorporated former Portuguese enclaves of Dadra and Nagar Haveli within India and provided for their administration under the rule-making powers of the President (Art. 240).

11. CONSTITUTION (ELEVENTH AMENDMENT) ACT, 1961—obtained the necessity of a joint meeting of the two House of Parliament (Art. 66) by forming them into an Electoral College for the election of the Vice-President. It also amended Art. 71 so as to make it clear that the election of the President or the Vice-President should not be challenged on the ground by any vacancy for whatever reason in the appropriate Electoral College.

12. CONSTITUTION (TWELFTH AMENDMENT) ACT, 1962—was passed in March 1962 by which as from December 20, 1961, the territories of Goa, Daman and Diu became part

of the territory of India. From that day they are being administered as a Union Territory in accordance with Article 240 of the Constitution.

13. CONSTITUTION (THIRTEENTH AMENDMENT) ACT, 1962—created Nagaland as the sixteenth State in the Indian Union (Art. 371A).

14. CONSTITUTION (FOURTEENTH AMENDMENT) ACT, 1962—created legislatures in the Union Territories. The act relates to the territories of Himachal Pradesh, Manipur, Goa, Daman and Diu and Pondicherry. They will have new legislatures on the pattern that prevailed in some of the former Part 'C' States. The Act also provides that the number of seats allowed to Union Territories in Lok Sabha shall increase to a maximum of 25.

15. CONSTITUTION (FIFTEENTH AMENDMENT) ACT, 1963—makes the President of India in consultation with the Chief Justice of India, the final arbiter in a dispute about a High Court Judge's age and shortens the hitherto dilatory procedure for disciplinary action against Government employees.

16. CONSTITUTION (SIXTEENTH AMENDMENT) ACT, 1963—empowers the States to enact any legislation imposing reasonable restrictions on the exercise of Fundamental Rights in the interest of sovereignty and integrity of India. The Act amends clauses 2 and 4 of Article 19 of the Constitution. It also amends Arts. 84 and 173 and the forms of oath in the Third Schedule to the Constitution so as to provide that every candidate for the membership of Parliament and State Legislatures, Union and State Ministers, members of the Parliament and State Legislatures, Judges of the Supreme Court and High Courts and Comptroller and Auditor-General of India should take oath to uphold the sovereignty and integrity of India.

17. CONSTITUTION (SEVENTEENTH AMENDMENT) ACT, 1964—amended Article 31 with a provision that where any law provides for the acquisition by the States of any land held by a person under his personal cultivation, the State cannot lawfully acquire any portion of such land within the ceiling limit unless the law ensures compensation payable at the market value. It also redefines the expression "estate" and extends protection to 64 State land enactments so that their validity is not questioned.

18. CONSTITUTION (EIGHTEENTH AMENDMENT) BILL, 1964—has not yet been enacted by Parliament.

19. CONSTITUTION (NINETEENTH AMENDMENT) ACT, 1966—amended Article 324. In the said Article, in clause (1), the words "including the appointment of election tribunals for the decision of doubts and disputes arising out of or in connection with elections to Parliament and to the Legislatures of States" shall be omitted.

20. CONSTITUTION (TWENTIETH AMENDMENT) ACT, 1966—inserted a new Article 233A, validating the appointment, posting, promotion or transfer of a person as a district judge, if such appointment was illegal or void by person of its not being in accordance with Article 233 or 235 (dealing with control over subordinate courts by High Court etc.)

21. CONSTITUTION (TWENTY-FIRST AMENDMENT) ACT, 1967—amended the Eighth Schedule to the Constitution and recognised 'Sindhi' as the official language.

22. CONSTITUTION (TWENTY-SECOND AMENDMENT) ACT, 1969—inserted a new Article 244A by which formation of an autonomous State comprising certain tribal areas in Assam and creation of local legislature or Council of Ministers of both therefore are provided. It also amended Article 275 and inserted a further new Article 371B.

23. CONSTITUTION (TWENTY-THIRD AMENDMENT) ACT, 1969—amended Articles 330, 332, 333 and 334. This Act extended by another 10 years from 1970 the Constitutional safeguards guaranteed to the Schedule Castes, Scheduled Tribes and Anglo-Indians.

24. CONSTITUTION (TWENTY-FOURTH AMENDMENT) ACT, 1971—amended Articles 13 and 368 of the Constitution so as to provide that an abridgment of Fundamental Rights can be brought about in the same manner as a modification of any other constitutional provision. The Act also made it obligatory on the part of the President to give his assent to any future Constitutional Amendment Bill, passed by both Houses of the Parliament.

25. CONSTITUTION (TWENTY-FIFTH AMENDMENT) ACT, 1971—amended Article 31(2) of the Constitution so as to make it clear that the legislatures can pass a law for the acquisition or requisition of any property for an amount which may be fixed by such law or which may be determined in accordance with such principles and given in such manners as may be specified in such law, shall not be questioned in any court. The above Amendment also inserted a new Article 31C which says "Notwithstanding anything contained in Article 13, no law

giving effect to the policy of the State towards securing the principles specified in Clause (b) and Clause (c) of Article 39 shall be deemed to be void on the ground that it is inconsistent with, or takes away or abridges any of the rights conferred by Articles 14, 19 or 31" and a law thus passed by the legislatures shall not be questioned in any court.

26. CONSTITUTION (TWENTY-SIXTH AMENDMENT) ACT, 1971—deleted Articles 291 and 362 of the Constitution which provides for privy purses and certain rights and privileges of rulers of Indian States. It also incorporated a new Article 363A.

27. CONSTITUTION (TWENTY-SEVENTH AMENDMENT) ACT, 1971—included the Union Territory of Mizoram in Article 239A of the Constitution to provide for a legislature and council of ministers for the territory.

28. CONSTITUTION (TWENTY-SEVENTH AMENDMENT) ACT, 1971—empowered the President to make a declaration of emergency restricted to certain parts of the country.

29. CONSTITUTION (TWENTY-NINTH AMENDMENT) ACT, 1972—ensured the take-over of land in excess of any ceiling imposed by the States without payment of compensation, at market value.

30. CONSTITUTION (THIRTIETH AMENDMENT) ACT, 1972—increased the elective strength of the Lok Sabha from 525 to 545.

31. CONSTITUTION (THIRTY-FIRST AMENDMENT) ACT, 1972—enabled Parliament to vary or revoke by law the conditions of service and privileges of ICS or IAS officers. It deleted Article 314 of the constitution which gave protection to the ICS or IAS officers' conditions of service and privileges.

32. CONSTITUTION (THIRTY-SECOND AMENDMENT) ACT, provided for inclusion of The Kerala Land Reforms (Amendment) Act, 1969 and the Kerala Reforms Land (Amendment) Act, 1971 in the Ninth Schedule of the Constitution.

33. CONSTITUTION (THIRTY-THIRD AMENDMENT) ACT, 1974—amended Articles 10(3) (B) and 190(3) (B) of the constitution to prevent coercive and involuntary resignations by legislators.

34. CONSTITUTION (THIRTY-FOURTH AMENDMENT) ACT, 1974—invalidated the acceptance of resignation by members of the State Legislatures and Parliament which were made under duress or coercion or any other kind of involuntary resignation.

35. CONSTITUTION (THIRTY-FIFTH AMENDMENT) ACT, 1974—provided for Associate status to Sikkim.

36. CONSTITUTION (THIRTY-SIXTH AMENDMENT) ACT, 1975—provided for integration of Sikkim with the Indian Union as the 22nd State of the Republic.

37. CONSTITUTION (THIRTY-SEVENTH AMENDMENT) ACT, 1975—provided for a Legislative Assembly and a Council of Ministers for the Union Territory of Arunachal Pradesh.

38. CONSTITUTION (THIRTY-EIGHTH AMENDMENT) ACT, 1975—amended Articles 113, 213, 289B, 352, 356, 359 and 360 of the Constitution. It made the declaration of Emergency by the President and the promulgation of Ordinances by the President, Governors, and Administrative Heads of Union Territories non-justiciable (beyond the purview of the judiciary).

39. CONSTITUTION (THIRTY-NINTH AMENDMENT) ACT, 1975—amended Articles 71 and 329 of Constitution and Ninth Schedule. It placed the election of the President Vice-President, Prime Minister and the Speaker beyond judicial scrutiny.

40. CONSTITUTION (FORTIETH AMENDMENT) ACT, 1975—amended Art. 361 to extend immunity from legal process to the Prime Minister.

41. CONSTITUTION (FORTY-FIRST AMENDMENT) ACT, 1975—amends the Ninth Schedule to include 64 central and state laws which now remain beyond judicial scrutiny.

42. CONSTITUTION (FORTY-SECOND AMENDMENT) 1976—introduced far-reaching changes in the Constitution of India. It described India as Sovereign, Socialist, Secular, Democratic Republic, inserted a chapter on Fundamental Duties, curtailed the powers of the High Courts and provided for institution of administrative tribunals.

43. CONSTITUTION (FORTY-THIRD AMENDMENT) ACT, 1977—omitted Art. 226A along with Art. 131A made special provision to enable High Court to deal with pending cases.

44. CONSTITUTION (FORTY-FOURTH AMENDMENT) ACT, 1978—provided for preventive detention of a person for a longer period than two months unless an Advisory Board constituted in accordance with the recommendation of the Chief Justice of the High Court.

45. CONSTITUTION (FORTY-FIFTH AMENDMENT) ACT, 1980—In article 334 of the Constitution for the words "thirty years" the words "forty years" should be substituted.

46. CONSTITUTION (FORTY-SIXTH AMENDMENT) ACT, 1982—Seeks to remove certain lacunae in the existing sales tax legislation.

47. CONSTITUTION (FORTY-SEVENTH AMENDMENT) ACT, 1984—Amendment of the Ninth Schedule—In the Ninth Schedule to the Constitution, after entry 188 and before the Explanation, the following entry shall be inserted, namely:

189 The Assam (Temporarily Settled Areas) Tenancy Act, 1971 (Assam Act XXII of 1971).

190. The Assam (Temporarily Settled Areas) Tenancy Amendment 2 of 1980.

191 The Bihar Land Reforms (Fixation of Ceiling Areas and Acquisition of Surplus Land) (Amendment) Act, 1974 (Bihar Act 13 of 1975).

192. The Bihar Land Reforms (Fixation of Ceiling Area and Acquisition of Surplus Land) (Amendment) Act 1976 (Bihar Act 22 of 1976).

193 The Bihar Land Reforms (Fixation of Ceiling Area and Acquisition of Surplus Land) (Amendment) Act, 1978 (Bihar Act VII of 1978).

194 The Land Acquisition (Bihar Amendment) Act, 1979 (Bihar Act 2 of 1980).

195. The Haryana Ceiling and Land Holdings (Amendment) Act, 1977 (Haryana Act. 14 of 1977).

196 The Tamil Nadu Land Reforms (Fixation of Ceiling on Land) Amendment Act, 1978 (Tamil Nadu Act 25 of 1978).

197 The Tamil Nadu Land Reforms (Fixation of Ceiling on Land) Amendment Act, 1979 (Tamil Nadu Act II of 1979).

198 The Uttar Pradesh Zamindari Abolition Laws (Amendment) Act, 1978 (Uttar Pradesh Act 15 of 1978).

199 The West Bengal Restoration of Alienated Land (Amendment) Act, 1978 (West Bengal Act XXIV of 1978).

200 The West Bengal Restoration of Alienated Land (Amendment) Act, 1980 (West Bengal Act LVI of 1980).

201 The Goa, Daman and Diu Agricultural Tenancy Act, 1964 (Goa, Agricultural Tenancy Act, 1964; Goa, Daman and Diu Act 7 of 1964).

202 The Goa, Daman and Diu Agricultural Tenancy (Fifth Amendment), Act, 1976 (Goa, Daman and Diu Act 17 of 1976).

48. CONSTITUTION (FORTY-EIGHT AMENDMENT) ACT, 1984—Amendment of Article 356. In Article 356 of the Constitution in clause (5), the following provision shall be inserted at the end, namely:

"Provided that in the case of the Proclamation issued under clause (1) on the 6th day of Oct. 1983 with respect to the State of Punjab, the reference in this clause to "any period beyond the expiration of one year" shall be construed as a reference to any period beyond the expiration of two years".

49. CONSTITUTION (FORTY-NINTH AMENDMENT) ACT, 1984—Amendment of Article 244. In Article 244 of the Constitution, in clauses (1) and (2) for the words "and Meghalaya" the words "Meghalaya and Tripura" shall be substituted.

12A. A. Application of Acts of Parliament and of the Legislature of the State of Tripura to the autonomous districts and autonomous regions in the State of Tripura. Notwithstanding anything in the Constitution.

(a) if any provision of a law made by the District or a Regional Council in the State of Tripura with respect to any matter specified in the Sub-paragraph (1) of paragraph 3 of this Schedule or if any provision of any regulation made by District Council or a Regional Council in that State under paragraph 8 or paragraph 10 of this Schedule, is repugnant to any provision of a law made by the Legislature of the State of Tripura with respect to that matter, then, the law, or regulation made by the District Council or as the case may be, the Regional Council whether of the State of Tripura, shall, to the extent of repugnancy, be void and the law made by the Legislature of the State of Tripura shall prevail:

(b) the President may, with respect to any Act of Parliament, by notification, direct that it shall not apply to the autonomous district or an autonomous region or any thereof subject to such exceptions or modification as he may specify in the notification and any such direction may be given so as to have retrospective effect".

50. CONSTITUTION (FIFTIETH AMENDMENT) ACT, 1984 — Substitution of Article 33 — For Article 33 of the Constitution, the following Article shall be substituted namely —

"33. Power of Parliament to modify the rights conferred by this Part in their application to Forces, etc. — Parliament may, by law, determine to what extent any of the rights conferred by this Part shall, in their application to —

(a) the members of the Armed Forces ; or

(b) the members of the Forces charged with the maintenance of public order ; or

(c) persons employed in any bureau or other organisation established by the State for purpose of intelligence or counter intelligence ; or

(d) persons employed in, or in connection with, the telecommunication systems set up for the purposes of any force, bureau or organisation referred to in clauses (a) to (c) be restricted or abrogated so as to ensure the proper discharge of their duty and the maintenance of discipline among them."

51. CONSTITUTION (FIFTY-FIRST AMENDMENT) BILL, 1984 — Amendment of Article 330 — (1). In Article 330 of the Constitution, in clause (1), for subclause (b), the following sub-clause shall be substituted namely :

"(b) the Scheduled Tribes except their Scheduled Tribes in the autonomous districts of Assam ; and"

The Amendment made to the Article 330 of the Constitution by sub-section (1) shall not affect any representation in the House of the People until the dissolution of the House of the People existing at the commencement of this Act.

Amendment of Article 332 — (1) In Article 332 of the Constitution, in clause (1) for the word "except the Scheduled Tribes in the tribal areas of Assam, in Nagaland and in Meghalaya the words "except the Scheduled Tribes in the autonomous districts of Assam" shall be substituted.

(2) The amendment made to Article 332 of the Constitution by Sub-section (1) shall not affect any representation in the Legislative Assembly of the State of Nagaland or the Legislative Assembly of the State of Meghalaya until the dissolution of the Legislature of State of Nagaland or the Legislative Assembly of the State of Meghalaya existing at the commencement of this Act.

SCHEDULES

First Schedule (Articles 1 and 4) — 1. States — Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Nagaland, Orissa, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal. 2. Union Territories — Delhi, Andaman & Nicobar Islands, Lakshadweep, Pondichery, Arunachal Pradesh, Goa, Daman & Diu, Dadra & Nagar Haveli, Chandigarh, Mizoram.

Second Schedule (Part A) — Provisions as to the President and the Governors of States. The following emoluments per mensem shall be paid to —

The President

Rs. 10,000

The Governor of a State

Rs. 5,000

The President and the Governors of the States shall also be paid such allowances as were payable respectively to the Governor-General of India and the Governors of the corresponding Provinces immediately before the Commencement of this Constitution — (Part B) — Omitted by the Constitution (Seventh Amendment) 9th, 1956.

(Part C) — Provision as to the Speaker and Deputy Speaker of the House of the people and the Chairman and the Deputy Chairman of the Council of States and the Speaker and Deputy Speaker of the Legislative Assembly and the Chairman and the Deputy Chairman of Legislative Council of a State.

(Part D) — Provision as to the salary of Judges of the Supreme Court and of the High Courts.

Chief Justice of Supreme Court per mensem

Rs. 5,000

Any other Judges of Supreme Court per mensem	..	Rs. 4,500
Chief Justices of High Courts	..	Rs. 4,000
Any other Judges of High Courts	..	Rs. 3,000
(Part E) — Provision as to the Comptroller and Auditor-General of India.		
Comptroller and Auditor-General of India per mensem		Rs. 4,000
Third Schedule — Forms of Oaths of Affirmations. ~f States-- Andhra Pradesh 18, Assam		
Fourth Schedule — Allocation of seats in the Council of States— Andhra Pradesh 18,		
Assam 7, Bihar 22, Gujarat 11, Kerala 9, Madhya Pradesh 16, Tamil Nadu 18, Maharashtra 19,		
Karnataka 12, Orissa 10, Punjab 11, Rajasthan 10, Uttar Pradesh 34, West Bengal 16, Jammu		
& Kashmir 4, Nagaland 1, Delhi 3, Himachal Pradesh 2, Manipur 1, Pondicherry 1, Tripura 1		
= 226.		
Fifth Schedule — Provision as to the administration and control of Scheduled Areas and		
Scheduled Tribes.		
Sixth Schedule — Provision as to the administration of Tribal Areas in Assam.		
Seventh Schedule — List I — Union List ; List II — State List ; List III — Concurrent List.		
Eighth Schedule — Languages, Assamese, Bengali, Gujarati, Hindi, Kannada, Kashmiri,		
Malayalam, Marathi, Oriya, Punjabi, Sanskrit, Sindhi, Tamil, Telugu and Urdu.		
Ninth Schedule — (Article 31B) — Bihar Land Reforms Act, 1950 ; Bombay Maleki Tenure		
Abolition Act, 1949 ; Kerala Land Reforms (Amendment) Act, 1969 and 1971 etc.		
Tenth Schedule — Part A — Territories of Sikkim, Part B — Terms and conditions of as-		
sociation of Sikkim with the Union Rep. by the Constitution (Thirty Sixth Amendment) Act,		
1975 Sec. 5 (w.e.f. 26th April, 1975).		

EDUCATION, SCIENCE AND CULTURE

SCOPE AND FUNCTION — With the 42nd Amendment of the Constitution, education has become a subject of the current list and positive role for the Central Govt. The scope and functions of Union Government in the field of education are limited to the subjects included in the Union List of the Constitution for which Union Government have the sole responsibility. These are — maintenance of Central Universities and institutions of national importance declared as such, union agencies and institutions for professional, vocational or technical training or for promotion of special studies or research and co-ordination and determination of standards in institutions of higher education or research. The Centre has also special responsibilities for the education of the scheduled castes and scheduled tribes. But it is to be noted under the Constitution, education is the direct responsibility of the State Government. Though the education is essentially a State responsibility, one of the directives of the Constitution enjoins that the "State" shall endeavour to provide free and compulsory education for all children until they complete the age of 14 years. According to another directive of the Constitution the "State" is required to promote education and economic interest of the weaker section of the people. Emphasis is also laid in the Constitution on the need for economic and social planning, as mentioned in the Concurrent List. One of the special directives of all Constitution enjoins upon the Union Government the duty of developing, enriching and spreading the Hindi language. In the implementation of this directive, the Ministry of Education has an important role to play.

These obligation of the Union Government are discharged by the Ministry of Education. The responsibilities of the Union Government in the State sector of education are discharged through a broad-based system of grants-in-aid to the respective State Governments for developing their educational programmes.

The cultural programmes implemented by the Ministry emphasise such activities which express and promote the basic unity of Indian culture, contribute towards the promotion of emotional integration among people closer to one another. The Union Government have an extensive programme of cultural relation with many countries of the world. Through an exchange of cultural delegations and exhibitions, and through participation in international programmes in the field of arts this programme aims at projecting India's cultural heritage to other countries.

EDUCATION POLICY—A 17-point resolution on national education policy covering all important aspects, principles, stages and structures of education as also the basic goal and objectives of national education was adopted by the Union Cabinet on July 17, 1968. This is the first educational policy resolution after India attained freedom and also the first since education was transferred to provinces constituting British India. The last resolution was adopted by the British Government of India in 1913.

The key points in the comprehensive policy formulation and reconstruction of education are : (1) Free and compulsory education up to the age of 14 in fulfilment of the directive principle under Article 45 of the Constitution. (2) Improved status, emoluments and education of teachers. (3) Three-language formula and development of regional language. (4) Equalisation of education of science and research. (5) Development of education of cheap textbooks. (6) Investment of 6 per cent of National income on education. (7) Work experience and National Service etc. In recent years a uniform pattern of education has been introduced throughout the whole country. It envisages a ten-year school education, a two-year predegree course, a three-year degree course and a two-year post-graduate course. The Government at the Centre has promise to give the education system a rural bias and make it job-oriented. Stress is also laid on non-formal education. The system of correspondence course has been implemented by many Universities. There was at one time even a talk of starting Open Universities on the British model.

A Working Group on Education and Culture was set up by the Government of India in July 1980 to suggest perspective of development for the decade, particularly with a view to equalising educational opportunities to all sections of the people, removing the existing socio-economic disparities, and to make recommendation for action programmes in the sixth Five-Year Plan 1980-85 indicating goals, priorities and policies.

As enunciated in the Report submitted in August 1980, the important goals and tasks of educational planning to which the educational systems and programme need to be redirected are :

(a) to guarantee to all equality of opportunity in their education for improving quality of life and their participation in the tasks of promoting the general well-being of the society.

(b) to afford to all young people and adults, irrespective of age, the means for ample self-fulfilment within the framework of a harmonious development which reflects the need of the community to which they belong :

(c) to provide for a continuous process of life-long education, for their physical, intellectual and cultural development and for inculcating capabilities to cope with the influences social change.

(d) to establish dynamic and beneficial links between education, employment and development with due regard for the economic and social aims of the community : and

(e) to promote values of national integration, secularism, democracy and dignity of labour.

PLAN OUTLAY FOR EDUCATION :

During the year 1987-88 the total budget allocation given for the Department of Education was Rs. 1,211 Crores (Rs. 800 Crores under plan, Rs. 386 Crores Under Non-Plan and Rs. 25 Crores under the Border Area Development Education Programme.)

Allocation of funds for the year 1988-89 was Rs. 1595 Crores (Rs. 800 Crore under Plan, Rs. 750 Crores under the Non-Plan and Rs. 45 Crores under Border Area Development Programme.)

SIGNIFICANT GROWTH IN NUMBER OF SCHOOLS :

There were more than 730,000 schools in India—630,000 of them in the villages—with 128 million students and 3.7 million teachers in 1986. Today the figure could be 800,000 schools and 135 million students.

The reasons for drop-outs are poverty among the people, drought, lack of school buildings, leave alone black boards and other facilities. Blackboards and buildings are proposed to be provided in five years for all schools but the States lack resources as well

as the will to do so. As more schools are being opened, equipment will be harder to provide. A large number of village schools have only one teacher and in some tribal areas, like Baster, students rarely go to school.

The latest survey reveals that 11 per cent of higher secondary schools offer vocational courses at the plus two stage. The enrolment in these courses in 1988 was 134,377. Eighty-five per cent of these schools offered arts courses. Science courses were available in 68 per cent schools, while 36 per cent of the schools offered the commerce course. Six per cent of the schools had facilities for agriculture and technical courses, while about 11 per cent had home science courses. Ninety-four schools had computer science facilities at the higher secondary stage.

The survey reveals an increase of more than 26% at the primary school stage, 51% increase at the upper primary school stage, 63% increase at the high school stage and 88% increase at the higher secondary school stage. In the rural areas, the percentage of increase is much higher : primary 28.6, upper primary 62.3, secondary 80.8 and higher secondary 127.5.

The increase of girls' enrolment is reported to be about 36% at the primary stage, 64% at the upper primary stage, 74% at the secondary stage, and 132% at the higher secondary stage, compared to 1978. There was a phenomenal increase in the number of girls going to schools, especially in the rural areas : primary 42%, upper primary 87%, secondary 113% and higher secondary 329%. The number of school in the country rose by 16% in 1986 since 1978. The maximum increase was in the higher secondary schools 49%.

The enrolment of Scheduled Caste children as well as Scheduled Tribe children is rising—132 and 185 per cent, respectively, at the higher secondary stage.

In 1986, women teachers were 31 per cent at the primary stage, 32 per cent at the upper primary stage, 28 per cent at the secondary stage and 29 per cent at the higher secondary stage.

More than 13 per cent primary schools were without buildings, 13.7 per cent had kutchha buildings, while 72.7 per cent had pucca buildings. At the upper primary stage, however, about 88 per cent schools had pucca buildings, while only 4 per cent were without buildings.

EDUCATIONAL PROGRESS

Substantial progress has been achieved in the provision of schooling facilities since 1951. The number of primary schools increased from 210 lakhs in 1950-51 to 537 lakhs as on 30-9-1987, thus recording an increase of about 255 per cent. During the same period, the number of middle schools increased from 14 lakhs to 137 lakhs thus recording more than ten-fold increase.

The findings of the Fifth All India Educational Survey (1986) shows that there has been an increase in enrolment of teachers of about 28.6% in the Primary stage in rural area, 62.3% in upper primary stage, 80.8% in the Secondary Stage and 127.5% in the Higher Secondary Stage.

Findings of the Fifth All India Educational Survey

The Fifth All India Educational Survey (1986) throws up the following findings regarding growth of education, vis-a-vis the situation that obtained at the time of the Fourth All India Educational Survey (1978)-increase in enrolment and number of teachers has been as shown below :

Increase in Enrolment	In all areas 1.	In rural areas 2.	Amongst S.Cs. 3.	Amongst S.Ts. 4.
Primary Stage	26%	28.6%	49%	62%
Upper Primary Stage	51%	62.3%	102%	126%
Secondary Stage	63%	80.8%	121%	124%
Higher Secondary Stage	88%	127.5%	132%	185%

Increase in Girls' Enrolment

Primary Stage	36%	92%
Upper Primary Stage	64%	87%
Secondary Stage	74%	87%
Higher Secondary Stage	132%	329%

Increase in the Number of Teachers

Primary Stage	17%
Upper Primary Stage	24%
Secondary Stage	49%
Higher Secondary Stage	62%

Operation Blackboard

The Scheme of Operation Blackboard aims at bringing about substantial improvement in facilities in primary schools run by Government, Local Bodies, Panchayati Raj and recognised aided institutions. It has three interdependent components namely,

- Provision of a building comprising of at least two reasonable large all-weather rooms with a deep verandah and separate toilet facilities for boys and girls ;
- At least two teachers in every school, as far as possible, one of them a woman ; and
- Provision of essential teaching and learning materials including blackboards, maps, charts, toys and equipment for work experience.

Funds for construction of school buildings are to be provided mainly under National Rural Employment Programme (NREP) and Rural Landless Employment Guarantee Programme (RLEGP). Funds for other components are provided by the Department of Education. The scheme seeks to cover the Primary school in all the blocks/Municipal areas in the country in a phased manner.

During 1987-88, an amount of Rs. 110.61 crores was provided as assistance to 24 States and 3 Union Territories for

- covering 1,13,417 schools (over 21% of the primary schools in the country) and
- providing 36,891 additional teachers (for schools amongst the above).

GROWTH OF EDUCATIONAL INSTITUTIONS

	1950-51	1960-61	1970-71	1980-81	1986-87
Num. of Primary Schools (OOO's)	210	330	408	494	537
Num. of Middle Schools (OOO's)	14	50	91	119	137
Num. of Secondary/Higher Secondary Schools (OOO's)	7	17	37	51	69

	1950-51	1960-61	1970-71	1980-81	1986-87
Num. of Colleges for General Education (Degree Standard & above)	542	1082	2285	3421	4151
Num. of Colleges for Professional Education (Degree & above level)	182	810	992	1156	1280

* Relates to 1982-83

NUMBER OF STUDENTS BY EDUCATION STAGE

	1950-51	1960-61	1970-71	1980-81	1986-87
Num. of pupils in Classes (Lakn)					
I-V	192 (43.1)	350 (62.4)	570 (72.6)	738 (80.5)	900 (96.0)
VI-VIII	31 (12.9)	67 (22.5)	133 (34.2)	207 (41.9)	288 (53.14)
XI-XI/XII	14	33	76	119	176
Num. of pupils studying in degree level & above courses (Lakh)	2	6	25	30	34

Note : Figure in parenthesis indicate percentage of enrolment to total population in the age groups of 6-11 & 11-14 years.

GIRLS' ENROLMENT BY STAGES

Stage	1950-51	1960-61	1970-71	1980-81	1986-87
	(In Lakh)				
Primary (I-V)	54 (28.1)	114 (32.6)	213 (37.4)	285 (38.6)	361 (40.1)
Middle (VI-VIII)	5 (16.1)	16 (23.9)	39 (29.3)	88 (32.9)	102 (35.4)
Secondary/Hr. Secondary/10+2	2 (14.3)	6 (18.2)	19 (25.0)	35 (29.4)	54 (30.7)
Intermediate (IX & above)	20 (10.0)	1 (16.7)	4 (20.0)	8 (26.7)	10 (29.4)
Higher Education (Degree & above level)					

* Relates to 1982-83

Note : Figures in parenthesis indicate percentage to total enrolment (Boys & Girls)

NUMBER OF TEACHERS

	1950-51	1960-61	1970-71	1980-81	1986-87
	(In thousands)				
Primary Schools	535	742	1060	1363	1522
Middle Schools	85	345	638	852	979
Secondary/Hr. Secondary Schools	127	296	629	912	1199

FREE SCHOOL EDUCATION—The present position regarding free education in the country may be summarised as follows : Legislation for compulsory primary education exists in all States except Bihar, Manipur, Meghalaya, Nagaland, Sikkim and Tripura. Education in classes I-V is already free in Government Schools, Government aided schools and in schools run by local bodies in all parts of the country. It is also free in classes VI-VIII in all States and Union Territories except for boys in VII to VIII in Uttar Pradesh.

All States except Manipur, Bihar, Meghalaya, Nagaland, Sikkim and Tripura have enacted legislation for compulsory education. As for Union Territories such legislation is in force in Delhi, Andaman & Nicobar Islands and Chandigarh.

The children of the scheduled castes and scheduled tribes get free education in addition. All educational instrument generally allow a certain percentage of free studentships.

The ten plus 2 pattern of school education has so far been adopted by thirty one States and Union Territories and also by the schools affiliated to the Central Board of Secondary Education. Meghalaya, Nagaland and Mizoram have pre-university stage of two years after class X. The number of CBSF affiliated schools as on 30.11.1988 stood at 2,652.

The States of Andhra Pradesh, Karnataka, Kerala, Assam, Gujarat, Jammu & Kashmir, Maharashtra, West Bengal and Goa, Daman & Diu have introduced new pattern of education 10 plus 2 plus 3. U.P. has already in operation the 12-years period of education at school level.

The Educational Technology Project is designed to stimulate and promote integrated use of mass media and instructional technology at all levels of education. The Project is managed by the Centre of Educational Technology established as a separate institution of the NCERT at Delhi and by the educational technology cells in the States of Orissa, Andhra Pradesh, Karnataka, Madhya Pradesh, Maharashtra and Rajasthan.

National Foundation for Teacher's Welfare was set up in 1962 with the object of promoting the welfare of the teachers.

National Awards for Teachers was instituted in 1958 with the object of granting recognition to the teachers of outstanding merit working in Primary, Middle, High/Higher Secondary Schools. In 1967-68 the scope was enlarged to cover the teachers of Sanskrit Pathshalas and 1978 the scheme covered the Arabic and Persian teachers of Madrasas. The award money for the teachers was increased from Rs. 2,500 to Rs. 5,000 from the year 1987-88. Besides, the number of awards given to teachers under the scheme has been increased from 186 to 300 from the year 1988-89. For 1988, 200 teachers have so far has selected.

National Council for Women's Education advise the Government on various matter relating to the education of girls and women and maintain contracts between the Government and its various organisations working in the field.

National Board of Adult Education—was constituted on 5-12-69.

An All India Council for elementary Education advises the Central and State Government in all matters relating to education and preparation of programmes for the early implementation of compulsory and free education.

Computer Education in schools was launched during 1984-85 in collaboration with Department of Electronics in 248 Higher Secondary Schools. The project continued till 1987-88 on year to year basis with addition of 1700 more schools. Fifty three resource centres were set up to train school teachers and provide logistic support to the participating schools.

In order to provide good quality modern education to the talented children predominantly from the rural areas, Government of India have launched a scheme to establish Novadaya Vidyalayas as on an average of one in each district. Two hundred and fifty six Novadaya Vidyalayas covering 22 States and 7 Union Territories has so far been established in the country. There are 256 principals and 2719 teachers at the Novadaya Vidyalayas at present.

The Bal Bhawan and National Children's Museum was established in Delhi in June 1956. Their main purpose is to afford opportunities to children for education through

recreation and physical activities. At present, about 45 Bal Bhawan Kendras are functioning in Delhi. They cater about 1,65,000 children in Delhi, school going, non-school going and dropouts.

Secondary Education—This covers the age-group 14-17. The Central Board of Secondary Education, New Delhi was set up on July 1, 1962 for conducting a common all India Secondary and Senior Secondary Examination. It caters to the educational needs of the children of the transferable Central Government Employees and makes its services available to any secondary school outside India wishing to prepare candidates or its examination. The total number of schools recognised by the Board is now 2,364 including one in Tehran. An autonomous body, the Kendriya Vidyalaya Sangathan, has been set up for the sole purpose of administering the Kendriya Vidyalayas (Central Schools) established all over the country to facilitate the education of the children and wards of transferable Central Government employees, including defence personnel. It now conducts 729 schools. The total number of students on roll in all Kendriya Vidyalaya was 3,66,885 as on April, 1985. The central Institute of English was established in November 1958, in Hyderabad as an autonomous institution with a view to reformulating the objectives of teaching English in India, modernising the methods of teaching English etc. State Bureaux of Educational and Vocational Guidance in different State have carrying out a programme of training of career masters and guidance counsellors.

Central Tibetan Schools Administration is an autonomous organisation set up by the Government of India in 1961 to establish and to carry on the administration on the schools and institutions set up for the educational or training of Tibetan refugee children. The Administration has been running 4 Residential Schools, at Dalhousie, Darjeeling, Mussoorie and Simla, one Educational-cum-Vocational Institute and 33 Day Schools. Total number of students studying in schools by CTSA is 10,473.

State Institute of Education—To improve the quality of education at the school level particularly at the primary and middle schools levels, the State Institutes of Education have been started under Centrally sponsored scheme initiated during the 1963-64. The main function of these Institutes are ; to organise in service training for inspecting officers, staff of training institution for elementary teachers ; to conduct studies and investigations in the elementary students. Central assistance on 100 per cent basis is given to the State Government for running the Institutes. State Institutes have been established in all the States except Nagland and Haryana. One State Institute was started in Delhi 1966-67.

National Adult Education Programme—Although it was formally launched on 2 October 1978, the five years of the programme began only in April 1979.

OPEN SCHOOL—has been started by the Central Board of Secondary Education in 1979 as viable alternative system to cater to the needs of school dropouts, working adults and women of rural areas and economically backward communities. The number of students enrolled with the Open School has reached 17,052 in 1987-88.

Enrolment Strategy—The hardcore of non-enrolled children particularly at the Primary State, belong to weaker section i.e., scheduled castes, scheduled tribes, agricultural labourers and slum dwellers. More than two third of the non-enrolled children are girls. More than 80% of the non-enrolled children are from nine educationally backward States—Andhra Pradesh, Assam, Bihar, Jammu & Kashmir, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh & West Bengal.

Voluntary Organisations in the nine educationally backward State running non-formal education are given Central assistance on recommendations of the State Government. So far 55 Voluntary Organisations and 1 academic institution have been sanctioned grants of 17.64 lakhs during the year 1985-86.

During 1985-86 the total non-formal coverage of the entire country would be of the order at 42 lakhs through 1,65,648 non-formal centres, including 20-500 existing centres exclusively for girls. Besides number of non-formal centres run by Voluntary Organisations

with Central grant in 2424 with an estimated coverage of 60,600.

BASIC EDUCATION

Basic education has an active centred curriculum wherein the process of learning is co-related with the physical and social environment of the children. Education is imparted through socially useful productive activities like spinning and weaving, gardening, carpentry, leather works, book craft, domestic craft, pottery, elementary engineering, etc.

The National Institute of Basic Education, set up in 1956 is engaged in carrying on research and in offering training and guidance to teachers and administrators of basic education. The Institute is now a constituent unit of the National Council of Education Research and Training.

The National Basic Education, established in 1962, advises the Union Government on programme and policies and reviews progress.

The National Service Scheme has now been made a part of the Basic Education Programme. It seeks to mobilise the student & youth community in social welfare activities like building of roads & canals, spread of literacy, ect.

HIGHER EDUCATION

In the field of higher education, in addition to the Constitutional obligations, the Government of India gives grants- in-aid to State Government and voluntary organisations and operates a few programmes of international co-operation in education. It also conducts significant pilot projects in higher education of which the most important is that of Rural Institutes.

In the Universities and Colleges, enrolment increases from 36.82 lakhs in 1987-88 to 38.14 lakhs in 1988-89. The number of students in the University departments was 6.37 lakhs and in colleges 31.77 lakhs. Enrolment in the first degree level was 33.57 lakhs, post graduate level 3.62 lakhs, research level 0.42 lakhs and at diploma and certificate level 0.53 lakhs.

The number of teacher increased to 2.42 lakhs. Of these, 0.53 lakhs were in the University departments and the rest in affiliated colleges. Of the total number of 53,165 teachers in the Universities, 6,273 were professors, 13,079 were readers, 31,580 were lecturers and 2,233 were tutors and demonstrators. In the affiliated colleges, the number of senior teachers was 24,923 and 1,55,389 were lecturers and 8,496 were tutors, demonstrators.

The enrolment of women students at the beginning of the year 1988- 89 was 11.95 lakhs as against 11.25 lakhs in the previous year.

The Government is responsible for the maintenance of 9 Central Universities : (1) Aligarh Muslim University ; (2) Banaras Hindu University ; (3) University of Delhi ; (4) Visva-Bharati University, Santiniketan ; (5) Jawaharlal Nehru University, New Delhi ; (6) North Eastern Hill University, Shillong ; (7) University Hyderabad, (8) Indira Gandhi National Open University, New Delhi ; (9) Pondicherry University, Pondicherry.

During the year 1988-89 Kuvempu University (Shimoga), Kota Open University (Kota), University of Ajmer (Ajmer), Rajasthan Agricultural University (Bikaner), Tripura University (Agartala) and Purvachal University (Jeunpur) were established.

The Central Institute of Rashtrapati Niwas at Simla runs with Government's financial assistance.

Indian Institute of Advance Study, Simla, is functioning since October 1965 to provide facilities for multifaculty advanced study and research to teachers and research workers.

Institute of Russian Studies, New Delhi was set up in November 1965 in collaboration with the Government of U.S.S.R.

American Institute of Indian Studies, New Delhi—was established in 1962 to encourage research in India in the field of humanities and social Science by pre-doctoral, doctoral and post doctoral schools in American Universities.

An Inter-University Board was formed in 1925, for the discussion of university problems and for the mutual recognition of degrees and diplomas in India. The function

of this Board is advisory.

Shastri Indo-Canadian Institute was established in Canada on 20th August, 1968 by the Government of India and Canada jointly to promote and foster the growth of research in Indian studies in Canadian Universities.

Indian Council of Social Science Research was founded in 1969 in New Delhi for the primary objective of promoting and co-ordinating social science research in the country.

National Staff College for Educational Planning and Administrators, New Delhi was set up with a view to improving educational planning and administrative Services in the country.

Indian Council of Historical Research was set up in March 1972 in New Delhi. It has undertaken several projects to promote research in new and relatively less explored areas such as history of language, literature and philosophy etc.

Indian Council of Philosophical Research was set up in March 1977, with a view to review the progress of research in philosophy, to assist project and programme of research in philosophy, to give financial assistance and technical guidance to institutions, organisations and individuals engaged in research and to take all such measures as may be necessary to promote research in Philosophy.

All India Institutions of Higher Learning—was established to encourage certain voluntary organisations which are offering programme of higher education outside the university system.

National Institute of Educational Planning and Administration, New Delhi—is an autonomous organisation to promote research, training and consultancy in educational planning and administration.

There are 3 types of universities in India : (1) Affiliating type which merely prescribe courses of study, conduct examinations and award degrees and diplomas but do not undertake the task of teaching ; (2) Affiliating and Teaching type which, in addition to carry on function of the affiliating type, offer teaching and research facilities ; (3) Residential and teaching type which control all colleges under their jurisdiction and undertake teaching at all levels.

There are 110 universities and 22 institutions deemed to be universities in January, 1988.

Many research laboratories and institutions are reorganised by the Inter-Universities Board as centres of higher research.

University Grant Commission—was appointed in 1953 in pursuance of the recommendations of the University Education Commission appointed by the Government in 1948. It was given an autonomous status by the U.G.C. Act, of 1956, which requires the Commissions to take such steps as it may think fit for the promotion and co-ordination of university education and for determination and maintenance of standards of teaching, examination and research in universities. The grants are paid through U.G.C. to the Central University on 100 p.c. basis both for the maintenance and development and to all state universities on a sharing basis for their development projects only.

The main works of the U.G.C. are : (1) development projects ; (2) improvement of salary scales to teachers ; (3) instructing an important scheme for setting up centres of advanced studies attached to different universities ; (4) construction of hostels ; (5) utilisation to services of retired teachers ; (6) travel grants ; (7) exchange of teachers ; and (8) scholarships and fellowships.

HIGHER TECHNICAL EDUCATION

The Indian Institutes of Technology have been established with the main object of fostering post-graduate education and research in engineering and technology.

The Indian Institute of Technology, Kharagpur, the first in the chain of 5 higher technological institutes started functioning in 1951. The Indian Institute of Technology, Bombay and the Indian Institute of Technology, Madras, admitted the first batch of students in 1958 and 1959 respectively and the Institute of Kanpur in 1960. A new College of Engineering and Technology was established in New Delhi for under graduate and

post-graduate course as well as research.

There are 137 institutions in the country, conducting courses in engineering and technology at the first degree level and 284 institutions conducting courses at the diploma level.

Regional Engineering Colleges, were set up in each of the major states in the Second and Third Plan periods to enable the country to meet the increased need for trained engineering personnel during the subsequent plan period. There are 14 Regional Engineering Colleges at present. The fifteenth REC at Silchar (Assam) and sixteenth at Hamirpur (Himachal Pradesh) have also started functioning. Establishment of one more REC at Jaladhar in Punjab has been approved and it is expected to start functioning from the academic session 1989-90.

The Government of India is directly assisting 15 state government and 24 non-government post graduate institutions under the central scheme of development of post graduate education and research in engineering and technology.

The M. Tech and Doctoral programmes are implemented at the 5 Indian Institutes of Technology, University of Roorkee, Indian Institute of Science (Bangalore), Banaras Hindu University, a few REC, Anna University (Madras) and Jadavpur University, (Calcutta).

Community Polytechnics—The scheme was instituted under the central sector in the year 1978-79. In addition to offering diploma courses in various branches of engineering and technology, these polytechnics serve as focal points to promote transfer of technology to rural areas.

For the qualitative improvement of teachers in diploma institution, 4 teacher training institutions have been established at Madras, Bhopal, Calcutta and Chandigarh.

A National Institute for Training in Industrial Engineering was established in 1963 in Bombay in collaboration with the United Nations Special Fund. The Institute trains engineers and technicians in Works Managements Production, Planning and Control, Sales Organisation. A College of Architecture has been established at Chandigarh. The School of Planning and Architecture, New Delhi is the only institute of its kind offering post-graduate courses in Town Planning and Country Planning and Architecture in addition to providing normal facilities for the study of architecture at the undergraduate level. The Indian School of Mines, Dhanbad conducts five-year courses in Mining engineering, Applied Geology, Geo-Physic and Petroleum Technology and has been declared as deemed as University in 1966.

National Institute of Foundry and Forge, established by the All India Council for Technical Education, at Ranchi started functioning from December 1967. The Institute trains engineer specialists and technicians for foundry and forge industry.

Central Institute of Printing Technology—A school for starting the Central Institute has been approved by the all India Council for Technical Education. The Institute will train executive personnel and specialists for printing industry and will be fully financed by the Central Government.

Technical Teachers' Training Institutes for Polytechnic Teachers—There are four such institute in Madras, Chandigarh, Calcutta and Bhopal.

International Centre for Science and Technology Education was set up in 1986 to operate through a network of existing institution in the country and to serve as a resource centre and a centre for co-operative research.

Institute of Management—The Central Government has also established four All-India Institute of Management, one at Calcutta, (1961) one at Bangalore, (1972) one at Ahmedabad, (1962) and another at Lucknow, (1984) in association with State Government concerned.

The names of the institutions for Courses of Management are :—

- (1) Delhi School of Economics, Delhi University.
- (2) Indian Institute of Social Welfare and Business Management, Calcutta.
- (3) Jamnalal Bajaj Institute of Management Studies, Bombay University.

- (4) Madras University.
- (5) Victoria Jubilee Technical Institute, Bombay.
- (6) Indian Institute of Management, Calcutta.
- (7) Osmania University, Hyderabad.
- (8) Thiagaraja Institute of Management Studies, Madura.
- (9) Indian Institute of Technology, Kharagpur (W. B.).

RURAL HIGHER EDUCATION

A National Council for rural Higher Education in rural area was established in 1956 ; to advise the Government on all matters relating to the development of rural higher education. The Council has selected 15 institutions for development into rural institutes and these have started functioning at Sriniketan (W. Bengal), Gandhigram (Tamilnadu), Jamianagar (Delhi), Udaipur (Rajasthan), Birouli (Bihar), Bichpuri (U.P.), Sanosara (Gujarat), Coimbatore (Tamilnadu), Gargoti (Maharashtra), Amravati (Maharashtra), Rajpura (Punjab), Wardha (Maharashtra), Hanumanamathi (Karnataka), Thanjavoor (Kerala) and Indore (M. P.) the courses adopted by the council are ; (1) a 3-year diploma course in rural science, (2) a 2-year certificate course in rural science, (3) a 2-year certificate course in agricultural science, (4) a 3-year certificate course in civil and rural engineering (5) a 1-year sanitary inspectors' course and (6) a 1-year preparatory course to initiate matriculates into 3-year diploma course. Recognition of the diploma in rural sciences as equivalent to a first degree of a university for purpose of employment has been secured.

A concurrent course of general education and teachers training of three years' duration after the higher secondary stage has been introduced a pilot project at the Rural Institute at Gargoti.

A Post-graduate diploma in rural economics and co-operation started in 1961, has been provisionally recognised by the Government of India an equivalent to an M.A. degree of a recognised university.

SOCIAL EDUCATION

It aims at providing education for the betterment of life for the adult population. The social education provides an educational base for community development programmes and includes use of libraries, education in citizenship, cultural and recreational activities, utilisation of audiovisual aids and organisation of youth and women's groups for community development. Following progress has been made in this direction : (1) Establishment of a National Centre for Fundamental Education at New Delhi, to train higher grade personnel for social educational for social education works, research, etc. (2) Library Institute at Delhi university, (3) Delhi Public Library, (4) Social Education Institute for Industrial Workers at Indore and Nagpur, (5) Janata Colleges and Vidyapith, The objectives of the Vidyapith is to train village youths for rural leaderships, (6) Production of literature for social Education, such as prize competition for books for neo-literates, (7) UNESCO Prize Competition for books for new-reading public. (8) Sahitya Shibir, the literary workshops for training authors in the techniques of writing books for neo-literary, (9) Direct Production of new books, (10) National Book Trust, (11) Popular Literature Committee, advising the Government on matters relating to the production of literature for neo-literates and for newreading public. In this sector the Government maintain develop and help the development of a few libraries of all-India importance. There is an Institute of Library Science in Delhi for training up librarians.

Indian Council of Social Science Research — was established in April 1969 to aid, promote and co-ordinate research in social sciences. The Council has a total membership of 22 excluding the Chairman and member-Secretary.

EDUCATION OF THE HANDICAPPED

A National Advisory Council advises the Government on all problems concerning education, training and employment of the physically and mentally handicapped. The

following are the main institutions : (1) National Centre for the Blind, Dehra Dun, provides an integrated service for the blind. (2) A national library has been built up at Centre largely with the literature produced by its own press, (3) A training centre for the adult has been established at Hyderabad, (4) Special employment exchanges for the handicapped are located at Bombay, Delhi, Hyderabad, Madras, Jullunder, Kanpur, Ahmedabad, Bangalore, and Calcutta, (5) A model school for blind children was established at Dehra Dun in 1959, (6) A training Centre for the teachers of the blind was set up at Bombay in 1963, (7) a Central Braille Press was established by the Government of India in 1951 to produce literature for the blind.

PHYSICAL EDUCATION, GAMES AND YOUTH WELFARE

The main object of the schemes in the field is to consolidate and extend programme of physical education, games and sports and welfare. Following are the main institutions and plans for physical education- (1) Lakshmbai College of Physical Education, Gwalior started in 1957, is a national institution to provide three-year degree course in Physical Education, ; (2) National Physical Efficiency Drive was launched by the Government of India in 1960 for activating interest in physical fitness and for arousing enthusiasm for Higher standards of physical efficiency and achievement ; (3) Grants-in aid to private physical education institutions ; and (4) Promotion of Yoga. Kaivalyadham Shreeman Madhava Yoga Mandir Samity, Lonavala, is assisted under this scheme for maintenance and development expenditure for research and training of teachers. The Central Advisory Board of Physical Education and Recreation has been reconstituted to advice the Government on the co-ordination of all programmes and activities in the field of physical education. A society for the Administration of Central Institutes has been set up by merging existing societies.

Games & Sports—(1) The Netaji Subhas National Institute of Sport began to function in March 1961. It is located at the Motibagh Estate, Patiala, Rajkumari Sports teaching scheme were merged into National Institute of Sports from 1961. (2) Assistance to National Sports Federation Association. (3) Construction of Stadium. (4) Establishment of Sports Village. (5) Arjuna Award. (6) Indian Mountaineering Foundation.

All-India Council of Sports, established in 1954, advises the Government of India and the Sports Federations in the matter of development of games and sports.

National Discipline Scheme—was introduced in July, 1954, to bring up younger generation under proper code of discipline and to instil in them ideals of good citizenship and comradeship. It is meant for the physical and general social training to make younger generation healthy, both in body and mind. The scheme has been extended in a large number of schools in several States.

Youth Welfare—The main objects in organising youth welfare programmes are two—(1) promotion of inter-state understanding and (2) development of the Spirit of Nationhood in the youth of the country.

National Service Schemes—Participation in the National Cadet corps was so far compulsory for all male university students in the first and second year of the degree course. It has been decided that two alternative schemes should be developed viz., (i) National Service Corps (NSC) ; or (ii) National Sports Organisation (NSO), in order that students may be able to undertake activities in which they are interested. The sports scheme will be open only to those students who excel in sports and have to spend a good deal of their time in the pursuit.

Student Welfare Boards—The Students Welfare Boards are designed to look after the promote of the welfare activities for and among university/college students in order to enable them to utilise profitably their leisure hours. Under the scheme, the Centre gives assistance to universities to cover 50 per cent of the administrative expenditure (on approved items) incurred on such Boards.

Scouts and Guides—Financial assistance is given to the Bharat Scouts and guides for their various activities. All India Boys and Scouts Association is yet another organisation, which works largely among non-student youth.

SCHOLARSHIPS

The Union Government have evolved a large programme of scholarships for study in India and abroad, the various scholarships have been classified into following five sections :

-1. Scholarships for Indian Nationals for Studies in India - National Scholarships Scheme for POST-SECONDARY Education. The rates of Scholarships vary from Rs. 60/- p.m. to Rs. 120/- p.m. for day scholars and Rs. 100 p.m. to Rs. 170 p.m. for hostellers, depending on the study course.

Scholarship for the children of Primary and Secondary School Teachers of POST-SECONDARY Studies.

National Loan Scholarship Scheme. The amount of loan varies from Rs. 120/- to Rs. 1720/- per year, depending upon the course of study.

Scholarships in Approved Residential Secondary Schools. The objective of the scheme is to provide educational facilities to talented but poor student of the age groups 11 to 12 years for studying in good residential schools.

Schemes of Scholarships at the Secondary stage for talented students from rural areas.

Schemes to Students from non-Hindi speaking States from Post- Secondary studies in Hindi.

Research Scholarships to Products of Traditional Institutions engaged in the study of classical Languages other than Sanskrit like Arabic and Persian.

2. Scholarship from Indian National for Study Abroad-(a) Government of India Scheme-Partial Financial Assistance (Loan Scheme) provides for the grant of loans towards passage and other incidental expenses to students who have obtained admission of foreign universities. (b) National Scholarships for study abroad- This scheme provides financial assistance to meritorious students for post-graduate studies. Only those candidates whose parental income from all sources is less than Rs. 1000 per month are eligible for scholarship under this scheme. (c) Commonwealth by enabling an increasing number of their able citizens to share the wide range of educational resources available throughout the Commonwealth and thus promote equality of educational opportunities at the higher level. The programme include scholarships and fellowships in the following countries- Australia, Canada, Hong Kong, Jamaica, New Zealand, Nigeria, Sri Lanka and UK. (d) Scholarships offered by foreign Government/Institution Organisations ; (i) Foreign Governments-Austria, Bulgaria, Czechoslovakia, Denmark, Finland, France, German Democratic Republic, Federal Republic of Germany, Greece, Hungary, Italy, Japan, Netherlands, Norway, Poland, Romania, Saudi Arabia, Sweden, Egypt, United Kingdom, USSR and Yugoslavia. (ii) Institution/Organisation-German Academic Exchange Service of Federal Republic of Germany ; Minna James Heinemann Foundation, Hannover ; Research Institute of Electrical Communication. Tohoku University, Japan ; Royal Commission Science Research, London Exhibition of 1951 ; Federation of British Industries Overseas Scholarship for Practical Training UNESCO.

3. Scholarships for Students belonging to Scheduled Castes, Scheduled Tribes and other Backward Classes-(a) Scholarships for POST-SECONDARY Studies in India ; (b) Overseas Scholarship ; (c) Passage Grants.

4. Programme of Exchange of Scholars-With a view to promoting cultural relation with foreign countries, the Government of India have entered into agreements on exchange of scholars with certain countries, such as Afghanistan, Bulgaria, Czechoslovakia, France, GDR, Greece, Hungary, Poland, Romania, Egypt, USSR, Yugoslavia.

5. Scholarships for Foreign Nationals for Study in India.

SOCIAL AND CHILD WELFARE-The important measures in the field of social work include streamlining the schemes of the Central Social Welfare Board, strengthening training programmes for social work and encouraging voluntary organisations in various welfare activities. The following are the main programmes of : (1) Social Welfare-(a) Survey and Research programme ; (b) Social and Moral Hygiene and aftercare programme ; (c)

Assistance to voluntary organisation of Social welfare ; (2) Child Welfare ; (a) Integrated service for child welfare ; (b) Establishment of Balsevika training centre.

The Central Social Welfare Board was set up in Aug. 1953 with a view to providing representation to all the States. The main activities of the Board are as follows ; (a) grants-in-aid programmes ; (b) welfare extension projects ; (c) condensed course of education for all adult women ; (d) socio-economic programme for women ; (e) production units for small industries ; (f) industrial co-operative societies ; (g) handicrafts units ; (h) holiday homes ; (i) child welfare programme etc. At the State level, there are 24 States Social Welfare Advisory Boards.

DEVELOPMENT OF MODERN INDIAN LANGUAGES—The scheme envisages development of all modern Indian languages mentioned in the Constitution, excluding Hindi. Central Institute of Indian Languages, (Bharatiya Shitaya Sansthan), Mysore was inaugurated on 17th July, 1969. The Institute is set up to promote the development of all Indian languages. Four Regional Language Centres at Mysore, Bhubaneswar, Poona and Patiala have been established.

INDIAN NATIONAL COMMISSION FOR CO-OPERATION WITH UNESCO—is an agency established by the Government of India with the three-fold task or promoting the understanding of the aims and objects of UNESCO, of acting as a liaison agency between UNESCO and the institutions working for the advancement of education, science and culture and of advising the Government on matters relating to UNESCO. The Commission was established in 1949. The Minister of Education is the President of the Commission which has five sub- commissions—Education, Natural Sciences, Social Services, Cultural Activities and Humanities and Mass-Communication. The Education Secretary of the Government of India is the Secretary General of the Commission.

NATIONAL ARCHIVES OF INDIA—is the only archive re-positary of the Government of India in which are housed important records from the early days of the East India Company. It is responsible for the preservation of records by up-to-date scientific processes. Its main function are accession, repair and preservation of records, research and technical service, training publication, etc. The Advisory Bodies and Committees of the National Archives are ; (1) Indian Historical Records Commission ; (2) Research and Publication Committee ; (3) Advisory Committee on National Register of Records ; (4) Committee on Archival Legislation. Training is given to candidates for a one-year diploma course in Archives keeping. There is also a National Committee of Archivists.

The Asiatic Society, Calcutta—a two hundred years old institution, was founded with the object of enquiring into history, antiquities, arts, science and literature of Asia. The Institute has proved to be the fountain head of all literary and scientific activities in India and the parent of all other Asiatic Societies.

RESEARCH AND TRAINING—The National Council of Educational Research and Training (NCERT) was established as an autonomous body on September 1, 1961 with the function of (1) undertaking, aiding and promoting research in all branches of education ; (2) organising advanced pre-service and in-service training and disseminating improved techniques and practices ; (3) organising extension service for institutions engaged in educational research and training of teachers and (4) developing and improving multipurpose secondary education.

The main agencies of the Council are the National Institute of Education, consisting of 9 departments at New Delhi, the four Regional colleges of education at Ajmer, Bhubaneswar, Bhopal and Mysore and Central Institute of Education at Delhi.

The manuscript of the document spelling out norms, standards and specifications for the purchase or manufacturing the essential minimum items to be provided to each and every primary school into the country under the centrally sponsored scheme "Operation Blackboard" is being finalised and will be submitted to the Ministry for necessary action. This has been developed in collaboration with the Bureau of Indian Standards.

UNIVERSITIES AND VICE-CHANCELLORS

(With the year of establishments within brackets)

- Agra University, Agra (1927) — A.P. Mathur.
 Aligarh Muslim University, Aligarh (1921) — Mr. Syed Hashim Ali.
 Allahabad University, Allahabad (1887) — Dr. R. P. Mishra.
 Andhra Pradesh Agri. University, Rajendra Nagar, Hyderabad (1964) — Dr. A. Appa Rao.
 Andhra University, Waltair (1926) — Prof. K. Ramkrishna Rao.
 Annamalai University, Annamalai Nagar, P.O. Tamil Nadu (1929) — Prof. S. V. Chithibabu.
 Assam Agricultural University, Jorhat (1968) — Prof. Devajit Chaliha.
 Avadh University, Faizabad (1975) — A. P. Mehrotra.
 Acharya Narendra Deo University of Agricultural & Technology, Faizabad (1974) —
 Awadhesh Pratapsingh University, Rewa, M.P. (1968) — Dr. Hiralal Nigam.
 Banaras Hindu University, Varanasi (1916) — Prof. R. T. Rastogi.
 Bangalore University, Bangalore (1964) — Dr. D. Shankar Narayan.
 Berhampur University, Berhampur Gunjam (1967) — Dr. R. C. Das.
 Bhagalpur University, Bhagalpur, Bihar (1960) — Dr. M. O. Tacaheed.
 Bhopal University, Bhopal (1970) — Dr. R. C. Shukla.
 Bidhan Chandra Krishi Viswavidyalaya, Kalyani, W.B. (1974) — Dr. Dilip Dasgupta.
 Bihar University, Muzzaffarpur, Bihar (1952) — Dr. L. K. Mishra.
 Bombay University, Bombay (1857) — Dr. M. S. Gore.
 Burdwan University, Burdwan, W.B. (1960) — Dr. S. P. Banerjee.
 Bundelkhand University, Jhansi (1975) — P. K. Shukla.
 Calcutta University, Calcutta (1857) — Bhaskar Roy Chowdhury.
 Calicut University, Kerala (1968) — T. N. Jayachandran.
 Chandrasekhar Azad University of Agriculture & Technology, Kanpur (1974) —
 Cochin University, Cochin (1971) — Dr. K. Gopalan.
 Delhi University, Delhi (1922) — Prof. Moonis Raza.
 Dibrugarh University, Dibrugarh (1956) — Dr. S. D. Gorgi.
 Garhwal University, Srinagar, Garhwal (1973) — Sri Bhaktadarshan.
 G. B. Pant University of Agriculture & Technology, Pant Nagar, Nainital (1960) — Sir. Kripa
 Narayan.
 Gawahati University, Gawahati (1948) — Dr. J. M. Chowdhury.
 Gorakhpur University, Gorakhpur (1957) — Sri B. M. Shukla.
 Gujarat Agricultural University, Ahmedabad (1972) — Dr. C. B. Shastri.
 Gujarat University, Ahmedabad (1949) — Prof. K. S. Shah.
 Guru Nanak Dev University, Amritsar (1969) — Dr. S. S. Bal.
 Haryana Agricultural University, Hissar (1970) — Prof. Sri L. D. Kataria.
 Himachal Pradesh University, Simla (1970) — Prof. L. P. Sinha.
 Hyderabad University, Hyderabad (1974) — Prof. B. S. Ramakrishnan.
 Indira Gandhi National Open University (1985) — Prof. G. Ram Reddy.
 Indira Kala Sangeet Vishwavidyalaya, Khairagarh (1956) — Premalata Sharma.
 Indore University, Indore (1964) — Dr. D. Sharma.
 Jabalpur University, Jabalpur (1957) — Sri K. Chaudhuri.
 Jadavpur University, Calcutta (1955) — Dr. Shankar Sen.
 Jammu University, Jammu (1969) — Prof. M. R. Puri.
 Jawaharlal Nehru Krishi Viswavidyalaya, Jabalpur (1964) — Prof. S. V. Arya.
 Jawaharlal Nehru Technology University, Hyderabad (1972) — Dr. G. Lakshminarayana.
 Jawaharlal Nehru University, New Delhi, (1968) — Prof. P. N. Srivastava.
 Jiwaji University, Gwalior (1964) — Dr. K. K. Tiwari.
 Jodhpur University, Jodhpur (1963) — M. M. Chakraborty.
 Kalyani University, Kalyani (1960) — Prof. Santosh Sarkar.
 Kameswar Singh Darbhanga Sanskrit University, Darbhanga (1961) — Jaikant Mishra.
 Kanpur University, Kanpur (1965) — Dr. D. D. Tiwari.

- Karanataka University, Dharwar, Mysore (1949) — Dr. S. G. Desai.
 Kashmir University, Srinagar (1948) — Prof. S. Manzoor Alam.
 Kashi Vidyapith, Varanasi (1974) —
 Kerala University, Trivandrum (1937) — Dr. N. A. Karim.
 Kerala Agricultural University, Monnuthy, Trichur (1972) — Sri T. Madhava Menon.
 Konkani Krishi Vidyapith, Dapali, Ratnagiri (1972) — P. V. Salvi.
 Kumaon University, Nainital (1973) — Prof. A. D. Pant.
 Kurukshetra University, Kurukshetra (1956) — K. K. Sharma.
 Lalit Narayan Mithila University, Kurukshetra (1956) — Dr. C. D. Singh.
 Lucknow University, Lucknow (1921) — R. S. Mishra.
 Madras University, Madras (1957) — Dr. B. B. Sundaresan.
 Madurai University, Madurai (1966) — Prof. J. Ramachandran.
 Magadh University, Bodh-Gaya, Bihar (1962) — F. Ahmed.
 Maharaja Sayajirao University of Baroda, Baroda (1949) —
 Maharshi Dayananda University, Rohtak (1976) — Prof. Ram Gopal.
 Mahatma Phule Krishi Vidyapeeth, Rahuri, Ahmednagar (1968) — D. K. Salunke.
 Marathwada Krishi Vidyapith, Parabhani (1972) — Dr. N. G. P. Rao.
 Marhawada University, Aurangabad (1958) — B. A. Kulkarni.
 Meerat University, Meerut (1966) — Dr. S. D. Kulkarni.
 Mysore University, Mysore (1916) — Dr. V. P. Rudrappa.
 Nagarjuna University, Nagarjunanagar, Guntur (1976) — Dr. K. R. R. Mohan Rao.
 Nagpur University, Nagpur (1923) — Dr. M. A. Chansarkar.
 Narensra Deo University of Agriculture & Technology, Faizabad (1974) — Dr. Kriti Singh.
 North Bengal University, Raja Rammohanpur, Darjeeling (1962) — Prof. P. Mukherjee.
 North Eastern Hill University, Shillong (1973) — B. D. Sharma.
 Orissa University of Agriculture & Technology, Bhubaneswar (1962) — Dr. K. Ramamurthy.
 Osmania University, Hyderabad (1918) — K. Umapati.
 Patna University, Patna (1917) — G. P. Singh.
 Pondicherry University, Pondicherry (1985) — Dr. K. Venkatasubramaniam.
 Poona University, Poona (1949) — V. G. Bhide.
 Punjab Agricultural University, Ludhiana (1962) — Dr. Sukhdev Singh.
 Punjab University, Chandigarh (1947) — Dr. S. S. Jari.
 Punjab University, Patiala (1962) — Gursewak Singh.
 Punjabrao Krishi Vidyapith, Akola (1969) — Dr. K. R. Thakarie.
 Rabindra Bharati University, Calcutta (1962) — Rama Ranjan Mukherjee.
 Rajasthan University, Jaipur (1947) — Prof. T. K. N. Unnithan.
 Rajindra Agricultural University, Pusa, Samastipur — Dr. J. C. Bakhshi.
 Ranchi University, Ranchi (1960) — N. L. Nadda.
 Ravi Sankar University, Raipur (1964) — Dr. S. M. Agarwal.
 Rodhilkhand University, Bareilly (1976) — Dr. J. N. Rai.
 Rohtak University, Rohtak —
 Roorkee University, Roorkee (1949) — Dr. B. Singh.
 Sampurnananda Sanskrit Vidyavidyalaya, Varanasi (1958) — Dr. R. K. Sharma.
 Saradar Patel University, Vallabh Vidyanagar, Via Anand (1955) — K. N. Shah.
 Saugor University, Saugor (1964) — Dr. D. P. Jatar.
 Saurashtra University, Rajkot, Gujarat (1965) — B. B. Shukla.
 Shivaji University, Kolhapur (1962) — K. Bhagishayan.
 Srimati Nathibai Damodar Thakersey Women's University, Bombay (1951) — Mrs. Jyoti H. Trivedi.
 South Gujarat University, Surat (1968) — Prof. U. V. Baxi.
 Sri Venkateshwara University, Tirupati (1954) — Prof. G. N. Reddy.
 Tamil Nadu Agricultural University, Coimbatore (1971) — Dr. V. Rajagopalan.
 Udaipur University, Udaipur (1962) — Dr. Veterinary.
 University of Agricultural Science, Malleswaram, Bangalore-3, (1964) —
 Utkal University, Vani Vihar, Bhubaneswar (1943) — Bimal Kishore Mishra.

Vikram University, Ujjain (1957)—Dr. D. R. Sharma.
 Viswa-Bharati University, Santiketan (1951)—Prof. Nemai Sadhan Bose.
 [Source : The World of Learning 1986-87]

INSTITUTIONS DEEMED TO BE UNIVERSITIES

Banasthali Vidyapith, Rajasthan (1983), Birla Institute of Technology & Science, Pilani (1964), Central Institute of English & Foreign Languages, Hyderabad, (1967), Gandhigram Rural Institute, Gandhigram, Madurai (1976), Gujarat Vidyapith, Ahmedabad (1963), Gurukul Kangri Vishwavidyalaya, Haridwar (1962), Indian Agricultural Research Institute of Science, Bangalore (1958), Indian School of Mines, Dhanbad (1960), Jamia Millia, Islamia, New Delhi (1962), Tata Institute of Social Science, Bombay (1964), Veterinary Research Institute, Izatnagar, Bareilly (1983).

SCIENCE

GOVERNMENT OF INDIA'S SCIENTIFIC POLICY—The Government of India announced its scientific policy on March 4, 1958 in the following terms : (a) to foster, promote and sustain by all appropriate means, the cultivation of science and scientific research in all its aspects—pure, applied and educational ; (b) to ensure an adequate supply, within the country, of research-scientists of the highest quality, and to recognise their work as an important component of the strength of the nation ; (c) to encourage and initiate, with all possible speed, programmes for the training of scientific and technical personnel on a scale adequate to fulfil the country's needs in science and education, agriculture and industry, and defence ; (d) to ensure that creative talent of men and women is encouraged and finds full scope of specific activity ; (e) to encourage individual initiative for the acquisition and dissemination of knowledge, and for the discovery of new knowledge in an atmosphere of academic freedom ; and (f) in general, to secure for the people of the country, all the benefits that can accrue from the acquisition and application of scientific knowledge. The implosion of May 1974 has revealed the new heights of India's progress in the field of modern science. But our government is firmly committed to use atomic power only for peaceful purposes.

COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH—The scientific research under the Government of India is carried on mainly through the Council of Scientific and Industrial Research, set up in 1872 as an autonomous body and the various national laboratories or research institutes aided by the Council. National laboratories have been set up under its control. Its functions are ; (a) promotion, guidance and co-operation of scientific and industrial research in India ; (b) establishment, assistance and developed of special institutions or departments of existing institution for scientific study of problems affecting industries and trades ; (c) establishment and award of research studentship and fellowships ; (d) utilisation of the results of the research conducted under the auspices of the Council towards the development of industries in the country ; (e) establishment, maintenance and management of laboratories, workshops and organisations, to further scientific and industrial research for the use of Indian industries ; (f) collection and spread of information in regard not only to research but also to industrial matters generally ; (g) publication of scientific papers and a journal of Industrial Research and Development.

It maintains a National Register of Scientific and Technical Personnel in the country and has also the responsibility of administering the 'Post for temporary placement of well-qualified Indian scientists and technologists returning from abroad.'

The Council is administered by a governing body with the Prime Minister as its President and Education Minister as Vice-President, non-official representing science, business and industry as well as the representatives of the Ministry of Finance. The Government Department interested in the industrial research are also represented.

The Council is mainly financed by the Union Government. It has also income royalties and premia in process leased out, sale of publications, fees and charges levied for

consultation, testing etc. It receives gift of land, building and finances from State Governments and other, and donation from businessmen.

The Council of Scientific and Industrial Research has extended its activities in various directions. The Research Co-ordination, Industrial Liaison and Extension Unit maintains suitably documented information on the progress of research in the National Laboratories and assist internal co-ordination between the National Laboratories/Institutes and the CSIR. The unit maintains external co-ordination with other research organisations, such as the Railways, Indian Council of Agricultural Research, Indian Council of Medical Research etc. A Survey and Planning of Scientific Research Unit was set up in March 1963 for the purpose of collecting data and information on proper planning of research. The Designing and Engineering Unit provides assistance of the National Laboratories in the process developed in the laboratories from commercial point of view, designing of pilot and industrial plants based on these processes. A Defence Co-ordination Unit was set up in 1962 for co-ordinating the activities of the CSIR. Laboratories pertaining to defence problems, studying the defence requirements of imported strategic items, identifying the problems on which research and development work could be started on top priority basis. The National Register had enrolled the names of Indian scientists in India and abroad. Indian National Scientific Documentation Centre (INSDOC) was established in 1951 and is located at the National Physical Laboratory New Delhi. The Centre provides documentation services to National Laboratories, scientific institutions, universities and industrial concerns. It is a national repository for reports of scientific work carried out in the country, whether published or unpublished.

Besides, fostering research in its own National Laboratories/Institutes, etc, the CSIR provides grants-in-aid for ad-hoc research schemes in universities, technical institutions and industrial laboratories. The Council issues scientific and technical publications and gives scholarships and fellowships.

At present, 388 Senior and 1261 Junior Research Fellowships are tenable. Besides, there are 3 Senior and 4 Junior Research Fellows working in the Hindi Unit of the CSIR, set up in 1954 with the idea of developing Hindi as a vehicle for disseminating scientific knowledge and for communicating such activities of the CSIR as are directly related to the economic development of the country.

It also receives international co-operation and assistance from Rockefeller Foundation and other institutions.

National Research Development Corporation of India—The Corporation was incorporated on Dec. 31, 1953 with an authorised capital of Rs. 1 crore. The objects and functions of the Corporation are to develop and exploit in the public interests for profits or otherwise (a) all inventions of the Council of Scientific and Industrial Research, whether patentable or otherwise; (b) all patents and inventions of other department of Government of India including those of commodity research committees and other statutory research organisations including technical and engineering know-how of processes; (c) such other patents as may be voluntarily assigned, be general or special agreements, by universities, research institutions or individuals and (d) such processes and patents, the development of which may be entrusted to the Corporation.

Science Talent Research Scheme—The scheme is sponsored by the National Council of Education Research and Training of the Ministry of Education. It was introduced in 1962-63 on experimental basis.

The scheme seeks (1) to identify boys and girls with scientific aptitude at the secondary stage; (2) to stimulate science talent among young students by competitive process and (3) to encourage schools to take more active interest in teaching science. Under the scheme a competitive examination is held every year. Every district headquarters in the country has an examination centre. Any student in the final year of a secondary school or parallel institutions is eligible for the examination, provided the student has obtained 55 per cent or more marks in science subjects (including mathematics wherever applicable) at the annual examination of the preceding class.

Every year about 350 students are selected for scholarship, and about 200 more for awarding merit certificate to help them for the first year and Rs. 75/- per month for the next two years of degree course besides a book allowance of Rs. 100/- every year for three years.

National Laboratories and Institutes—The establishment of a chain of National Laboratories ranks as one of the major achievements in India since independence. These National Laboratories seek to supplement the work of other research institution of the country. The followings are the National Laboratories and Institutes :

National Physical Laboratory, New Delhi—conducts research on problems relating to physics, both fundamental and applied and maintains standards. Testing facilities are also available here.

National Chemical Laboratory, Poona—Its functions are fundamental and applied metallurgical research, the whole field of chemistry.

National Metallurgical Laboratory, Jamshedpur—deals with fundamental and applied metallurgical research and maintains regional research stations.

Central Fuel Research Institute, Jealgora (Bihar)—conducts fundamental and applied research on fuels-solid, liquid and gaseous. It has set up a coal gasification plant to convert coal and coke into gas for use as domestic fuel.

Central Glass and Ceramic Research Institute, Jadavpur, Calcutta—was established in August 1950. The Institute conducts research on different aspects of glass and ceramics, pottery, porcelain, refractories and enamels; development of processes for manufacturing glass and industry.

Central Road Research Institute, New Delhi—conducts research on road materials, testing of road materials and road surfaces.

Central Food Technology Research Institute, Mysore City—for food processing and conservation of food, food engineering and all aspects of fruit technology. Regional fruit and vegetable preservation stations have been established at Trichur, Nagpur, Bombay, Simla and Lucknow.

Central Drug Research Institute, Lucknow—for all aspects of drug research including evaluation and standardisation of crude drugs, discovery of substitutes for pharmacopoeial drugs and plants, pharmaceutical and synthetic chemical, bio-chemistry and bio- physics; infection, immunisation, pharmacology, chemotherapy and experimental medicine.

Central Leather Research Institute, Madras—for fundamental and applied aspects of leather technology. It has regional extension centres at Bombay, Calcutta, Jullundur, Kanpur and Rajkot.

Central Electro-Chemical Research Institute, Karaikudi (Tamil Nadu)—for research on different aspects of electro-chemistry, including electro-metallurgy, electro-depositon and allied problems.

Central Building Research Institute, Roorkee (U.P.)—for engineering and structural aspects of building and human comforts in relation to buildings.

Central Salt and Marine Chemicals Research Institute, Bahavnagar—carries on investigation on production of pure salts, reduction in cost of production, economic utilization of byproduction and utilization of marine and allied chemicals.

Central Electronics Engineering Research Institute, Pilani (Rajasthan)—for the design and construction of electronic equipment and components and test equipment.

National Botanical Garden, Lucknow—for the collection and large scale cultivation of economic and medicinal plants of industrial importance.

Central Mining Research Station, Dhanbad—Research in methods of mining safety in mines and mine machinery.

Regional Research Laboratory, Hyderabad—Research on problems relating to the industries and raw materials of the area.

Indian Institute of Experimental Medicine, Calcutta—Research on various aspects of bio-chemistry as applied to medicine, bacteriology etc.

Birla Industrial and Technological Museum, Calcutta—is a museum to depict scientific and technological advancement.

Regional Research Laboratory, Jammi-Tawai (Jammu and Kashmir)—Research on problems relating to the industries and raw materials of the area and research specially directed to medicinal plants of the Himalayas (Kashmir region).

Central Mechanical Engineering Research Institute, Durgapur (West Bengal)—Research in mechanical engineering in all its aspects.

Central Public Health Engineering Research Institute, Nagpur—Research on all aspects of public health engineering and co-ordination of work of all interested agencies in this field in the country.

National Aeronautical Laboratories, Bangalore—Scientific investigation of the problems of flight with a view to their practical application to the design, construction and operation of aircraft in India.

Regional Research Laboratory, Jorhat (Assam)—Research on problems relating to more efficient utilization and better conservation of important national resources of Assam and other regional needs posing special problems.

Industrial Toxicological Research Centre, Lucknow—studies harmful effects of industrial toxins of skin, blood, gastro-intestinal tract, central nervous system, bones etc.

Central Indian Medical Plants Organisation, Lucknow—Co-ordination of activities, the development of cultivation and utilization of medicinal plants on organised basis.

Central Scientific Instrument Organisation, Chandigarh—Promotion and development of indigenous manufacture of scientific instruments for teaching, research and industry.

Indian Institute of Petroleum, Dehra Dun—Research in petroleum refining and processing of natural gas, petro-chemicals, etc. and providing facilities for the training of personnel for petroleum industry.

National Geophysical Research Institute, Hyderabad—Correlation of the field data in all fundamental aspects of geology and geophysics.

Visvesvaraya Industrial & Technology Museum, Bangalore—is a museum to depict scientific and technological advancement.

National Institute of Oceanography, New Delhi—Research on various aspects of physical, geological, biological and chemical oceanography and prospecting petroleum and minerals in sea-bed.

Mafatlal Scientific and Technological Museum, Bombay—is a museum to depict scientific and technological advancement.

Regional Research Laboratory, Bhubaneswar (Orissa)—Research in problems relating to the industries and raw materials of the region.

National Biological Laboratory, Palampur (Kangra)—Both fundamental and applied research on modern aspects of biological sciences.

Indian National Scientific Documentation Centre, New Delhi—provides full range of documentation services.

Structural Engineering Research Centre, Roorkee (U.P.)—Conducts research in specialized design and development work in structural problems concerning buildings, bridges and other structures.

Liaison Units—have been set up in most of the laboratories to maintain contact with the industry, industrial and trade association. Government departments and other users of research. A Research Co-ordination, Industrial Liaison Extension Services unit is maintained at New Delhi.

VIGYAN MANDIRS—The object of this scheme is to make the village people familiar with the scientific principles involved in their day-to-day problems of agriculture, crop-protection, village sanitation, etc. Each Vigyan Mandir has a small museum and a laboratory for conducting simple analysis of soil, water and food. So far 52 Vigyan Mandirs have been set up generally at sites covered by community development projects. Since April 1963, administrative control of these has been transferred to State Governments and Union

Territories.

DEPARTMENTAL RESEARCH ACTIVITIES—There are eleven Hydraulic Stations under the Central Board of Irrigation and Power. The Central Water, Power and Irrigation Research Centre, Khadakvasla near Poona, is the pioneer hydraulic research station in India.

Botanical Survey of India, Calcutta—It functions to explore the plant resource of the country by systematic surveys. Systematic survey of the floras of the country in under-explored and unexplored areas are undertaken by this organisation. It also undertakes to reprint flora and other publications. The Botanical Survey of India has now under it the following organisations (1) Office of the Chief Botanist, Calcutta; (2) Central National Herbarium, Botanical Garden, Near Calcutta; (3) Botanical Galleries in Indian Museum, Calcutta; (4) Industrial Section of the Indian Museum, Calcutta; (5) Central Botanical Laboratory, Allahabad; (6) 5 regional circles, with headquarters at Dehra Dun, Coimbatore, Poona, Allahabad and Shillong.

The Botanical Garden founded in 1788 at Shibpur, near Calcutta, has been taken up by the Government of India.

Zoological Survey of India, Calcutta—was started in 1916. It conducts research in systematic zoology, animal ecology, geography and famistic surveys. 7 regional stations have been established at Shillong, Poona, Jabalpour, Madras, Patna and Dehra Dun.

Geological Survey of India, Calcutta—was established more than hundred years ago and is responsible for the preparation of the geological map of India. The field work of the Survey is conducted through eight regional circles.

Anthropological Survey of India, Calcutta—India is one of the earliest countries in the world to start anthropological survey in 1905. But the work was prematurely closed down. A Department of Anthropology was started in Calcutta University in 1921. In 1945, a nucleus of the Anthropological Department was established by the Government of India. It is responsible for conducting anthropological surveys including social, psychological, economic, linguistic, physical, genetic and instructional investigations.

Surveys of India—with its headquarter at Dehra Dun, carries out topographical surveys and prepares up-to-date maps. The officers of the Department are trained at the Survey Training School at Dehra Dun. The work of the Survey is carried on by 4 circles- Northern, Western, Eastern and Southern.

National Atlas Organisation—is entrusted with compiling, drawing, probing and printing of maps.

RESEARCH INSTITUTE—(a) Forest Research Institute at Dehra Dun carries on research on the utilisation of timber for constructional purposes. (b) All India Radio maintains a research unit in New Delhi to investigate problems relating to propagation and reception of radio waves and the design and performance of radio receives. (c) Railway Board has established a research centre at Lucknow with sub-stations at Lonavala and Chittaranjan to investigate problems referred to them by railway workshops and the Central Standards Office (Railway). (d) Roads Organisation under the Ministry of Transport deals with the problems of road development and road materials, highway and bridge engineering, ports harbours, etc. (e) Indian Standards Institute under the Ministry of Industrial Development lays down standard specification for materials, products, practices etc. and promotes quality control. It issues licences to manufacturers for providing third-party guarantee, about quality of products.

OTHER RESEARCHES

Atomic Energy and Outer Space Research—See Index.

Engineering Research—With a view to initiating and co-ordinating research on different engineering subjects, the Board of Engineering Research was inaugurated in 1950. The Board is assisted by 5 expert committees; (1) Civil Engineering Committee; (2) Mechanical Engineering Committee (3) Electrical and Radio Engineering Committee; (4) Hydraulic Committee (5) Aeronautical Engineering Committee.

Medical Research—Medical Research is conducted chiefly under the auspices of the

Indian Council of Medical Research founded in 1912 at New Delhi. It maintains the Nutrition Research Laboratory at Hyderabad. The Tuberculosis chemotherapy Centre at Madras, the Virus Research Centre at Poona, Cholera Research Centre at Calcutta, the Polio Research Unit and the Blood Group Reference Centre at Bombay. It provides grants-in-aid, disseminates information on medical research and publishes Journals. The country has a number of specialised Institutions, such as—(1) National Malaria Institute, Delhi; (2) All India Institute of Hygiene and Public Health, Calcutta; (3) Schools of Tropical Medicines, Calcutta; (4) Patel Chest-Institute, Bombay; (5) Central Leprosy Research Institute, Madras; (6) Haffkine Institute, Bombay; (7) Indian Cancer Research Centre, Bombay; (8) Central Research Institute, Kasauli (H.P.); (9) Pasteur Institute, Coonoor; (10) Central Drugs Laboratory, Calcutta; (11) King Institute of Preventive Medicine, Guindy, Tamil Nadu; (12) All India Institute of Medical Science, New Delhi, etc. There are also privately conducted research institutes like Bengal Immunity Research Institute, Calcutta, etc. (see also PUBLIC HEALTH section).

Agricultural Research—It had its beginning in 1929 with the starting of Indian Council of Agricultural Research. The Primary function of the Council is to promote, guide and co-ordinate agriculture and animal, husbandry, education and research and its application through the institution belonging to Central and State Governments, the universities and other institutions.

The following are the main Agricultural Institutes of India: (1) Forest Research Institute, Dehra Dun; (2) Indian Agricultural Research Institute, New Delhi; (3) Indian Veterinary Research Institute, Mukteswar and Izatnagar (U.P.); (4) National Dairy Research Institute, Karnal (Haryana); (5) Sugar Research Institute, Cuttack; (6) Cotton Technology Research Laboratory, Matunga, Bombay and its sub-stations at Indore (M.P.); (7) Central Jute Technological Research Laboratory, Calcutta; (8) Jute Agricultural Research Institute, Hooghly (W.B.); (9) Indian Lac Research Institutes, Ranchi; (10) Central Tobacco Research Institute, Rajamundry (A.P.); (11) Bidi Tobacco Research Station, Anand; (12) Central Inland Fisheries Research Station, Barrackpore, (W.B.); (13) Central Marine Fishing Research Station, Mandapam Camp (Madras); (14) Deep-sea Fishing Research Station, Bombay; (15) Central Coconut Research Station, Kavamkulam, Quilon (Kerala); (16) Central Potato Research Institute, Simla; (17) Central Vegetable Breeding Station, Kulu (Himachal Pradesh); (18) Fruit Research Institute, Sabour, Bhagalpur (Bihar); (19) Sugarcane Research Station, Poona; (20) Sugarcane Research Station, Saharanpur (U.P.); (21) Central Fisheries Technological Stations, Cochin and Ernakulam (Kerala) (See also AGRICULTURE Section).

Other Research and Technological Institution—Most of these are private research institutions financed by private endowments and Governments assistance.

Andhra Pradesh : 1. Nutrition Research Laboratories, Hyderabad.

Assam : 1. Tocklai Experimental Station (INDIAN TEA ASSOCIATION), Cinnamara.

Gujarat : 1. Ahmedabad Textile Industry's Research Association, Ahmedabad; 2. Central Salt & Marine Chemical Research Institute, Bhavnagar; 3. K.M. School of Post-graduate Medicine & Research, Ahmedabad; (4) Physical Research Laboratory, Ahmedabad.

Haryana : 1. National Dairy Research Institute, Karnal.

Karnataka : 1. National Dairy Research Institute, Adugodi Post, Bangalore; 2. Indian Institute of Science, Bangalore.

Maharashtra : 1. Armed Forces Medical College, Poona; 2. Haffkine Institute, Bombay; 3. Indian Cancer Research Centre, Bombay; 4. Maharashtra Association for the Cultivation of Science, Poona; 5. Taraporevala Marine Biological Station, Bombay; 6. Tata Memorial Hospital, Bombay.

Tamil Nadu : 1. Astro-Physical Observatories (Indian Meteorological Department), Kodaikanal; 2. Central Electro-Chemical Research Institute, Algappa College, Karaikudi; (3) Central Leather Research Institute, Madras; 4. Central Marine Fisheries Research Station, Mandapam Camp; 5. Sugarcane Breeding Institute, Coimbatore.

Rajasthan : Camp : 1. Central Electronic Engg. Research Institute, Pilani.

Uttar Pradesh : 1. Birbal Sahni Institute of Palaeo-Botany, Lucknow ; 2. Central Building Research Institute, Roorkee ; 3. Central Drug Research Institute, Lucknow ; 4. Forest Research Institute, Dehra Dun ; 5. Harcourt Butler Technological Institute, Kanpur ; 6. Indian Institute of Sugarcane Research, Lucknow ; 7. Indian Veterinary Research Institutes, Izatnagar and Mukteshwar ; 8. National Sugar Institute, Kanpur ; 9. Sheila Dhar Institute of Soil Science, Allahabad University, Allahabad.

West Bengal : 1. All India Institute of Hygiene & Public Health Calcutta ; 2. Bengal Immunity Research Institute, Calcutta ; 3. Bose Institute, Calcutta ; 4. Central Drugs Laboratory, Calcutta ; 5. Central Inland Fisheries Research Institute, Barrackpore, 24 Parganas ; 6. Indian Association for the Cultivation of Science, Calcutta ; 7. Indian Institute of Technology, Kharagpur ; 8. Indian Statistical Institute, Calcutta ; 9. Institute of Post-Graduate Medical Education and Research, Calcutta.

Delhi : 1. All India Institute of Medical Sciences, Safdarjung, New Delhi ; 2. Indian Agricultural Research Institute, New Delhi ; 3. Institute of Agricultural Research Statistics, Library Avenue, New Delhi ; 4. National Physical Laboratory, Hillside Road, New Delhi. 5. School of Planning Architecture, New Delhi ; 6. Shri Ram Institute for Industrial Research, Delhi ; 7. Institute of Research in Himalayan Geology, University of Delhi.

Himachal Pradesh ; 1. Central Research Institute, Kasauli.

CULTURAL AFFAIRS

THE NATIONAL AKADEMIES

SAHITYA AKADEMI—or the National Academy of Letters was set up by the Government of India on 12th March, 1954. The Government of India Resolution set forth the constitution of the Akademi as "a national organisation to work actively for the development of Indian letters and to set high literary standards to foster and co-ordinate literary activities in all the Indian languages and to promote through them all the cultural unity of the country". The Akademi functions as an autonomous organisation. It is wholly financed by the Union Government.

The general policy of the Sahitya Akademi and the basic principle of its programme are laid down by the Central Council and are implemented under the direct supervision of the Executive Board. There is an Adversory Board for each language. There are, besides special Editorial or Advisory board for specific projects. The tenure of the General Council is five years. The Akademi maintains two regional offices in Calcutta and Madras.

Besides the twenty two languages of the Constitution of India, the Sahitya Akademi has recognised English a language in which its programme or part thereof may be implemented.

The Akademi also makes annual awards of Rs. 10,000/- each to author of outstanding books in Indian languages and in English. The Akademi has a library in the Rabindra Bhawan, New Delhi. (See Index).

Address : Rabindra Bhawan, Feroze Shah Road, New Delhi—1.

SANGEET NATAK AKADEMI—The Akademi is an autonomous body set up by the Government of India in 1953. The chief objective of the Akademi is to foster and develop music, dance and drama. The Akademi gives grants to various performing, art organisations, promotes research, sets up training institutions, organises seminar, festivals and subsidies the publications on music, dance and drama. The Akademi also gives Awards annually to the eminent artists in the field of music, dance and drama.

Organisational Set-up—The Akademi functions through a General Council, an Executive Board, A Finance Committee and other special Committees which the Executive Board may appoint.

Programme—The Akademi has comprehensive programmes of documentation of the folk performing arts through films, tapes and photographs. It has built up a library of tape music both classical and folk. It maintains a museum of musical instruments and a

and his activities from the earliest pre-historic times shall be dealt with. The National Council of Science Museum which was registered on April 4, 1978 administers (1) Birla Industrial and Technological Museum, Calcutta, (2) Visvesvaraya Industrial and Technological Museum, Bangalore and (3) Nehru Science Centre, Bombay, (4) National Science Centre Delhi, (5) District Science Centre, Purulia, (6) Shrikrishna Science Centre, Patna (7) District Science Centre, Gulbarga (8) District Science Centre, Dharmapur (9) District Science Centre, Tirunelveli (10) Raman Science Centre, Nagpur (11) Regional Science Centre, Bhubaneswar.

The National Research Laboratory for Conservation of Cultural Property, a subordinate office under the Department of Culture, continued to carry research work in the field of conservation of cultural prosperity for developing new method of conservation and to improve upon the existing method with regard to Indian conditions.

LIBRARIES—The following libraries are under the control of the Central Government : (1) National Library, Calcutta, regarded as the premier library of India, (2) Central Reference Library, Calcutta, which publishes annual volume of bibliography, (3) Khuda Baksh Oriental Public Library, Patna, (4) Central Library, Bombay, (5) Delhi Public Library, Delhi (6) Central Secretariat Library, New Delhi, (7) Rampur Raza Library, Rampur, (8) Thanjavur Maharaja Serfoji's Saraswathi Mahal Library, Thanjavur, (9) Indian Council of World Affairs Library, New Delhi, (10) Raja Rammohan Ray Library Foundation, Calcutta. A Textbook Reference Library was set up in New Delhi in July 1972.

COPYRIGHT—A copyright office is functioning in the Education Ministry since 1958 so that the owners in such works can have a prima facie evidence of their ownership under the Copyright Act 1957. The Copyright board was reconstituted on April 1, 1981. During 1987, the Copyright office registered 718 works and registered changes in 27 cases of Artistic works.

ATOMIC ENERGY

India on 18 May, 1974 entered the nuclear club for the first time by successfully exploding an underground plutonium nuclear device in Rajasthan desert.

The first Indian satellite, Aryabhata, went into orbit around the earth after it had been launched successfully by a Soviet Intercosmos rocket on April 19, 1975.

It would carry out three-scientific experiments, designed and instrumented by Indian scientists, and would transmit the results to two earth stations set up by IRO and manned by Indian scientists, one each at Bears Lake, near Moscow, and Sriharikota in Andhra Pradesh.

The satellite was expected to stay in orbit nearly two years and a half but its useful life was likely to be limited to six months by its supply of compressed nitrogen which would impart it the spin required to keep it from tumbling in space.

The primary objective of the Indian Scientific Satellite Project, besides experiments in space, is to build up satellite technology.

Satellite Launch Vehicle (SLV) is a four-stage solid fuel rocket which launches a 40-kg. payload (either a satellite or a nuclear warhead—but in India's case the former).

India's first developmental flight of SLV-3 was blasted off on 31 May, 1981 from the launch pad at Sriharikota and put the Rohini Satellite in orbit. It circled the earth every 95 minutes.

23-metre long, 17-tonne, pencil-shaped four-stage rocket SLV-3 put the 38-kg. Rohini satellite (RS-DI) into a low earth orbit, with its closest point about 296 km. and farthest point about 834 km.

Rohini, originally designed to live for 300 days, met its premature end to the unexpectedly low orbit in which it was injected by the SLV-3 rocket. It burned up in space on 8 June 1981 after having been up for only nine days and without completing its mission.

The third flight of the SLV-3 was different from the two earlier experimental flights.

The first one, on 10 August, 1979 conceived as a sub-orbital flight with no payload, was a failure due to a malfunction in the reaction control system of the second stage. The second

one, with a 35 kg. Rohini satellite in a low elliptical orbit was launched on 18 July, 1980. It was designed to monitor the performance of the vehicle's stage four.

Ariane Passenger Payload Experimental (APPLE), India's first geostationary experimental telecommunications satellite was launched aboard the European Space Agency's Ariane rocket into an elliptical orbit on 19 June, 1981 from Kourou, French Guiana. It is an indigenously-fabricated, 670 kg. Golden-coloured satellite, with blud extended solar panels.

The total installed capacity of the country at present is 860 MWe. There are two atomic power stations in operation : the 420 MWe Tarapur Atomic Power Station, and the 440 MWe Rajasthan Atomic Power Station, and two under construction : the 470 MWe Madras Atomic Power Project and another 470 MWe power project at Narora in Uttar Pradesh. It has been decided to build yet another power station of 470 MWe capacity at Karapur in Gujarat.

HISTORY OF ATOMIC ENERGY IN INDIA—Atomic energy is the exclusive subject of the Central Government. In Aug. 1954 the Central Government launched a fullfledged atomic energy programme. The INDIAN ATOMIC ENERGY COMMISSION was set up on Aug. 10, 1948 with Late Dr. H. J. Bhabha as its Chairman. THE DEPARTMENT OF ATOMIC ENERGY at the Centre carried on the programme for the use and development of atomic energy in India. It was set up on Aug. 3, 1954.

NUCLEAR RESEARCH—The Atomic Energy Commission is responsible for formulating and implementing policies regarding atomic energy. The scientific and technical work of the commission is carried on by the BHABHA ATOMIC RESEARCH CENTRE (B. A. R. C.), Trombay and the ATOMIC MINERALS DIVISION which has its headquarters at Hyderabad.

BHABHA ATOMIC RESEARCH CENTRE, Trombay was set up as the Atomic Energy establishment in 1957 and renamed in 1967. It is the national centre for research and development work in nuclear energy.

The INDIRA GANDHI CENTRE FOR RESEARCH—at Kalpakkam undertake R & D work in all aspects of Fast Breeder Reactor Technology.

GAURIBIDANUR SEISMIC STATION near Bangalore was set up in 1965 in collaboration with the U. K. Atomic Energy Authority. It has a full array of 20 ensors. It helps in detecting and identifying underground nuclear explosions and facilitates resarch in seismology.

PROGRESS OF ATOMIC ENERGY—Science the establishment of the Department of Atomic Energy, research and development in the peaceful uses of atomic energy has made rapid strides.

India's first research reactor is the 1-mw APSARA, designed and built entirely by Indian personnel.

The second research is the 40-mw CANADA-INDIA REACTOR (CIRUS), set up with Canadian assistance. It went into operation on July 10, 1960.

The third research reactor is the ZERLINE, designed, engineered and build entirely by Indian personnel. It is a zero energy reactor (100 watts) and was commissioned on Jan. 14, 1961.

The fourth research reactor reactor is PURNIMA, a zero energy fast reactor.

A fifty reactor is under construction in the B. A. R. C. campus at Trombay.

An experimental fast breeder test reactor is being set up at Kalpakkam in Tamil Nadu.

A NUCLEAR FUEL COMPLEX has been established at Hyderabad to meet the fuel requirements of power reactors.

A MHD power plant is also being set up at BARC Trombay. A MHD complex is to be set up at Tiruchirapalli with the assistance of BHEL.

ATOMIC FUEL—A URANIAM METAL PLANT at Trombay was commissioned around the middle of Dec. 1959, for producing reactor grade uranium metal, and the first nuclear pure ingot uranium metal was produced on January 30, 1959, form uranium flouride

obtained from the Thorium Plant at Trombay. The THORIUM PLANT was set up in 1955 for processing thorium cake obtained from monazite sand on the Kerala beach.

A FUEL ELEMENT FABRICATION FACILITY, established in 1959, makes fuel rods for reactors. The first prototype fuel element CIRCUS produced on June 15, 1959; and the first lot of ten fuel elements was ready on Feb. 15, 1960. Indian fuel elements have some of the finest grained uranium metal in the world.

A small pilot plant is also in operation at Trombay for obtaining thorium metal by reducing thorium oxide with calcium.

The NUCLEAR FUEL COMPLEX at Hyderabad has been planned to make the country self-sufficient in nuclear fuel and zircaloy structural materials required for the nuclear power programmes. The activities of the complex have been diversified with the addition of the Stainless Steel Seamless Tubes Plant and the Ball Bearing Tube Plant.

POWER REACTOR FUEL REPROCESSING, Plant at Tarapur will process the irradiated fuel from Tarapur and other atomic power stations under construction.

HEAVY WATER (D₂O) Plants are stationed at Nangal (Punjab), Kota (Rana Pratap Sagar, Rajasthan), Baroda, Tuticorin and Talcher. Nangal Plant was commissioned in August 1962. The plant has an annual capacity of 14 tonnes. The setting up of other plants has been sanctioned. Kota plant will have a capacity of 100 tonnes of heavy water per year, the Baroda plant 67.2 tonnes, Tuticorin plant 71.3 tonnes and Talcher Plant 62.7 tonnes a year. Heavy water plants at Baroda, Tuticorin and Kota are operating satisfactorily. The THAL-VAISHET HEAVY WATER PLANT will be linked to the Fertilizer Plant of the Rashtriya Chemicals and Fertilizer Ltd. The MANUGURU HEAVY PLANT will be based on hydrogen sulphide-water exchange process. The Hazira Heavy Water Project is based on monothermal ammonia and hydrogen exchange process, will commence production by the end of 1990.

PLUTONIUM PLANT—A far-reaching development in the country's nuclear march was the commissioning in 1956, of a FUEL ELEMENT REPROCESSING PLANT (PLUTONIUM PLANT) at Trombay for processing irradiated uranium rods to extra plutonium 239 and other fissionable materials.

THE ELECTRONIC CORPORATION OF INDIA LTD., set up at Hyderabad in April, 1967 with an authorised capital Rs. 10 crores, will produce a variety of sophisticated electronic equipment and components including transistors, colour T. V. etc., nuclear instruments for medical, agricultural, industrial and research purposes, instrumentation controls for nuclear power stations and computers. It now has an authorised Capital of Rs. 40 Crores of which Rs. 36.2 crores has been called and paid up.

Two new laboratories have been set up; (1) an ELECTRONICS PROTOTYPE ENGINEERING LABORATORY to undertake production engineering of the electronic and allied equipment designed and developed in various laboratories and (2) a RELIABILITY EDUCATION LABORATORY to test, measure and evaluate reliability of electronic component, instruments and systems.

RADIO-ISOTOPES—Radio-isotopes and radio sources are perhaps the most versatile tools of the Atomic Age. One of the tasks of the Department of Atomic energy has been to make these tools available to workers all over the country. An ISOTOPE DIVISION was set up at Trombay in April 1957. The production of radio-isotopes and labelled compounds at Trombay has steadily increased over the year. Today more than 350 different types of radioactive products, including many special preparations, are readily available for users.

A RADIATION MEDICINE CENTRE was set up in Bombay in 1963 to promote the use of radio-isotopes in the diagnosis and treatment of diseases. Ready to the sterile vasectomy kits developed in ISOMED are highly successful. The Radio-isotopic x-ray unit has also been developed.

INDUSTRIAL ACTIVITIES—The Department of Atomic Energy also carries out industrial operations. The Industrial undertakings of the Department include Indian Rare

Earths Ltd., the Electronic Corporation of India Ltd., and the Uranium Corporation of India Ltd.

The POWER PROJECT ENGINEERING DIVISION undertakes the design, construction and commissioning of nuclear plants.

MINERAL PROSPECTING—The Atomic Minerals Divisions under the Department of Atomic Energy conducts surveying, prospecting and mining of atomic minerals, the most important of which is uranium but which also include, thorium, beryllium, zirconium, lithium, titanium etc. It has located and is now mining uranium deposits at Jaduguda near Jamshedpur. It has also discovered large deposits of monazite on the Ranchi plateau in Bihar, larger than the deposits on the Kerala coast, till then the largest in the world.

The monazite beach sands of Kerala and Tamil Nadu are being worked by the INDIAN RARE EARTHS LTD., at its plants at Alwaye (Kerala) and Manvalakurichi (Tamil Nadu). The rare earth salts are used in the manufacture of carbon covers for lamps, polishing power for mirrors and for special optical lenses. The rare earths metals are used in the form of mica in metallurgy and in the preparation of alloys and flints. The thorium Plant at Trombay is operated by Indian Rare Earth Ltd., on behalf of the department of Atomic Energy.

Separation of rare earths chloride from monazite at the Alwaye Plant in Kerala leaves a residual cake containing thorium and uranium. In April 1953, work was started at Trombay on a plant to process this residue to obtain thorium nitrate and uranium fluoride. Thorium nitrate is widely used in the gas mantle industry, and the plant at Trombay has been meeting the demands of this industry not only in India but also in other countries.

URANIUM CORPORATION OF INDIA LTD., at Jaduguda in Bihar, is responsible for the development of the uranium mine and the operation of the uranium mill at Jaduguda. The public sector undertaking, set up with an authorised capital of Rs. 15 crores, took over the management of the uranium Mine and Mill in October 1967. The second Uranium mine of UCIL at Bhatin is also producing Uranium and Magnesium concentrate.

Zircon allanite, from which zirconium can be extracted, has been discovered in Andhra and Tamil Nadu States. Hafnium is associated with zirconium in some of the deposits. The mineral fergusonite, source of Yttrium, has been located in Madurai area, Tamil Nadu. In Udaipur, Rajasthan, extensive deposits of vaniferous ore have been found. India is one of the world's largest producers of mineral beryl, from which beryllium can be extracted. Beryllium oxide, obtainable from the metal, is an important material used as a reactor moderator. Certain promising occurrences of Uranium have been brought to light in Madhya Pradesh, Karnataka, Meghalaya and Uttar Pradesh.

ATOMIC POWER STATIONS—India's first atomic power station, built at Tarapur in Maharashtra, with an installed capacity of 400 m.w. supplied from two units of 200 m.w. each, was commissioned on October 1969. After allowing for internal consumption, the supply of power to the grid is 380 m.w. The grid system of Gujarat and Maharashtra will be interlinked through a switchyard erected adjacent to the station. This station, apart from producing electrical power, will also play another important role of producing plutonium, a valuable atomic fuel. The Tarapur project is based on the use of enriched uranium which would have to be imported from the U.S.A. The Tarapur station has a capacity factor of 60 per cent which is comparable to any atomic reactor of similar design in the world.

The second atomic power station with a generating capacity of 400 m.w. is under construction at Rana Pratap Sagar in Rajasthan. This station will be of the CANDU-type using natural uranium as fuel and heavy water as moderator and coolant. One unit of 220 m.w. of this station has been operating since December 1973. The second unit of the station has been operating since November 1980.

The third atomic power station with a generating capacity of 470 m.w. is located at Kalpakkam, near Mahabalipuram in Tamil Nadu. This project is being engineered and built entirely by Indian personnel and will also be of the CANDU-type. It will consist of 2 units each with 235 m.w. of installed capacity and 215 m.w. of net output capacity.

The fourth atomic power station will be set up at Nerora in Western Uttar Pradesh. Initially it will comprise reaction of 200/235 m.w. and will feed power into the northern grid based on natural uranium it will produce 470 m.w. of nuclear power and will cost Rs. 140 crores.

The fifth atomic power station will be set up at Kakrapar in Gujarat. It will consist of 2 units of 235 MWe each.

During the year 1985-86 work has been initiated at a new site Kaiga in Karnataka and at Rajasthan. Each of these projects consists of two units, of 235 m.w. and is expected to be commissioned in 1994-95.

TRAINING—A Training School was started in 1957. It selects university graduates in science and engineering, annually on all India basis, and gives them specialised training for one year in the various disciplines of nuclear science. Upon successful completion of their training, they are absorbed by BARC and other organisation and projects under the Department of Atomic Energy.

RESEARCH AND FINANCIAL ASSISTANCE—Indira Gandhi Centre for Atomic Research (formally known as Reactor Research Centre) was set up at Kalpakkam near the Madras Atomic Power Station. It is a centre for studies in fast breeder reactor technology. It also has a Pulsed part Reactor. To promote research in nuclear science, subventions are granted to various universities, laboratories and research institutions. The TATA INSTITUTE OF FUNDAMENTAL RESEARCH, Bombay, is the national centre for advanced study and fundamental research in nuclear science, mathematics theoretical Physics and Cosmic rays. Other institutions receiving support from the Atomic Energy Department, are the SAHA INSTITUTE OF NUCLEAR PHYSICS, Calcutta, and the PHYSICAL RESEARCH LABORATORY, Ahmedabad, which conducts investigations on cosmic rays and associated astro-physics, aeronomy, theoretical physics, pace physics and radio-astronomy. A HIGH ALTITUDE RESEARCH LABORATORY has been set up at Gulmarg in Kashmir in 1963 at an altitude of 9,000 ft. for high altitude research work in cosmic rays, biology, physiology and other subjects. A similar laboratory is also to be established at Kodaikanal in Tamil Nadu. The NUCLEAR RESEARCH LABORATORY, Srinagar is devoted to applied research in nuclear and radiation physics, with particular emphasis on local problems. In 1967 the two organizations, viz., the TATA MEMORIAL CENTRE and the INDIAN CANCER RESEARCH CENTRE were amalgamated into one body called the TATA MEMORIAL CENTRE, under a Council. The aims of the Centre are to conduct intensive research directed towards the advancement of knowledge in the field of cancer, combat cancer in all its forms by care and study of patients and to provide education and training to physicians and investigators in special fields. The VARIABLE ENERGY CYCLOTRON, Calcutta, is a national facility for advanced work in nuclear physics, nuclear chemistry, isotope production for medical, agricultural and industrial purposes, and radiation damage studies on reactor materials. The INSTITUTE OF PHYSICS, Bhubaneswar continued its research activities in various branches of theoretical and experimental physics.

The 530 metre long cylindrical radio telescope at Ootacamund for studies in radio astronomy has been completed.

The SPACE SCIENCE AND TECHNOLOGY CENTRE which was set up on March 30, 1966 at Thumba is engaged in indigenous development of sounding rockets and satellite launching vehicles, control and guidance systems, on board and ground electronics, etc. to support rockets and satellite mission.

The RADIATION MEDICINE CENTRE OF BARC continues to be Regional Reference Centre of WHO, in collaboration with the International Atomic Energy Agency for SE Asia in the area of nuclear medicine.

INTERNATIONAL RELATIONS—India has been renominated as a member to the Board of Governors of the U.N. International Atomic Energy Agency as being the most advanced country in atomic energy development in South Asia.

SPACE RESEARCH IN INDIA—India formally entered the field of space research with setting up of an INDIAN NATIONAL COMMITTEE FOR SPACE RESEARCH by the Department of Atomic Energy on Feb. 16, 1962, to aid and advise the Department in the formulation and execution of policies on the peaceful use of outer space.

An EQUATORIAL ROCKET LAUNCHING STATION, set up at Thumba, near Trivandrum has been in operation since 1963 on Feb. 2, 1986, it was dedicated as a United Nations sponsored range by the Prime Minister of India.

The Rocket Propellant Plant at Thumba set up for manufacturing Centaure solid propellant grains was commissioned in February 1969.

The initial work at Thumba was based on agreement concluded between Department of Atomic Energy and NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA) of the U.S.A. Other facilities have been made available through agreement with the Academy of Science of USSR and the Space Research Organisation of France.

The Indian National Programme for sounding rockets is mainly aimed at studying the region of the atmosphere from 40 km. to 300 km. Observations can be made with balloons up to 40 km. and with artificial earth satellites about 200 km. The region between 40 km. and 200 km. can therefore best be sounded through rockets.

The programme involves two types of rockets. The small rocket would be able to carry instruments weighing up to 10 kg. to heights of above 70 km. and would fall into the ocean some 50 to 100 km. to the west of the launching pad.

A bigger two-stage rocket would be used to carry the scientific instruments weighing up to 40 kg. to heights up to 150 km.

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An Experimental SATELLITE COMMUNICATION EARTH STATION at Ahmedabad, established by the Indian National Committee for Space Research with the assistance of the U.N. Special Fund, started operation in August 1967.

The first Indian-developed rocket, ROHINI-RH 75 to conduct meteorological experiments, was launched from the Thumba Station on Nov. 20, 1967.

A Centaur rocket was successfully launched from the Thumba Station on November, 3, 1968, marking the beginning of a series experiments to study the celestial X-ray sources.

A fibre glass filament wound rocket motor, 125 mm. in diameter, was successfully flighttested at Thumba on June 6, 1969.

A second rocket launching station has been set up in Sriharikota Island in Nellore district of A.P. It used for testing rocket developed at the Science and Technology Centre at Thumba. It also serves as Satellite launching base.

India's second development flight of SLV-3 blasted off on 17 April, 1983 from the launch pad at Sriharikota and put a 41.5 kg. Rohini Satellite into an elliptical orbit. Rohini R-2 satellite perched on top of a four-stage solid propellant 23 metre long rocket was shot into a 438 km. orbit. The satellite is fitted with a two band solid state camera, called SMART sensor. The camera helps to produce better quality pictures with more contrast. It takes images for identifying landmarks and uses them to refine the orbit and altitude. Features like water, vegetation, clouds and snow can be picked up by this sensor.

Meanwhile, the Experimental Satellite Communication Earth Station is engaged in building the Arvi Commercial Satellite Communication Earth Station equipped to carry 48 high quality voice channels, a task that is being undertaken by an Indian team for the first time. The Station is also engaged in conducting its regular training courses for personnel from India and other developing countries. The Arvi station has been estimated cost Rs. 525 crores.

SPACE RESEARCH ESTABLISHMENT IN INDIA

THUMBA EQUATORIAL ROCKET LAUNCHING STATION (TERLS), THUMBA, U.N. sponsored sounding rocket range for scientific investigation of the upper atmosphere over the geomagnetic equator which passes close to Thumba. TERLS became operational in November 1963. It is open to all members of the United Nations for conducting scientific investigations.

The location of a rocket launching site on the geomagnetic equator offers unique facilities for investigation on problems of meteorological and on the ionosphere. The ionosphere over this region has features like the equatorial electrojet - a narrow stream of extremely high electric current, flowing from west to east.

SPACE SCIENCE AND TECHNOLOGICAL CENTRE (SSTC), on Veli Hill, by the side of the Thumba Equatorial Rocket Launching Station, was set up in 1965. SSTC is the Research and Development unit of the Indian Space Research Organisation and is responsible for the following : (i) to conduct research and development on systems and their components required in space research, (ii) to carry out prototype design and pilot production of equipment resulting from its R & D activities, and (iii) to develop indigenously a satellite launch capability of relevance not only for scientific exploration but also for many applications of outer space in the fields of communication, meteorology and remote sensing.

ROCKET PROPELLANT PLANT (RPP), Thumba was commissioned in February 1969 and is engaged in the production of solid propellant blocks. In order to support the satellite launch vehicle programme and produce new solid propellants under development at SSTC its facilities are being expanded.

ROCKET FABRICATION FACILITY (RFF), Thumba was commissioned in January, 1971 and is responsible for undertaking production of rockets and other hardware developed at SSTC.

SHRIHARIKOTA ROCKET RANGE (SHRR), a Satellite launching station being set up at Shriharikota island situated in Andhra Pradesh, about 60 kilometres north of Madras City.

The Station will provide a suitable range for launching scientific and technical satellites using multi-stage rockets. The work cannot be undertaken at the Thumba Equatorial Rocket Launching Station (TERLS) since it has a relatively small area surrounded by thickly populated villages, and for the important reason that it is advantageous to launch a satellite in the eastward direction to benefit from the Earth's rotation.

SOLID PROPELLANT SPACE BOOSTER PLANT (SPSBP) at Shriharikota. This is production of large size propellants for the satellite programme.

STATIC TEST AND EVALUATION COMPLEX (STEX), Shriharikota. This consists of facilities for static tests and stimulated high altitude tests of rocket motor and pyrotechnics.

ROCKET SLED FACILITY (RSF), Shriharikota. this is a high speed rocket testing facility for dynamic testing of some of the sub-systems of vehicles.

ISRO TELEMETRY, TRACKING AND COMMAND NETWORK (ISTRAC), was established as an independent Unit of ISRO in May 1984 with Headquarters at Bangalore. ISTRAC is entrusted with the responsibility for establishment, operation and management of ground network facilities for providing optimum ground support for ISRO satellite and launch vehicle missions. S-band TTC stations are located at Shriharikota, Ahmedabad, Trivandrum and Car Nicobar. A dedicated Spacecraft Control Centre has also been set up at Bangalore for providing support to the mission operations of the IRS satellite.

EXPERIMENTAL SATELLITE COMMUNICATION EARTH STATION (ESCES),

Ahmedabad, Set up in August 1967 ESCES impart instruction in satellite communications technology to students from India and other developing countries. The Station has a 14-metre diameter dish antenna.

SATELLITE INSTRUCTIONAL TELEVISION EXPERIMENT (SITE) GROUP, Ahmedabad, The SITE Group was specially created in April 1970 following the signing of the agreement between the DAE and NASA for the conduct of a joint satellite TV experiment. This Group has the full responsibility for the planning, management, operation and evaluation SITE.

AUTO VISUAL INSTRUCTIONAL DIVISION (AVID), New Delhi, is part of the Satellite Instructional Television Experiment (SITE) Project. Formed on June 1, 1971, it looks after the instructional aspects and objectives of SITE.

SATELLITE COMMUNICATION SYSTEMS DIVISIONS (SCSD), is responsible for systems design, management, manufacturing, installation and commissioning of satellite communication earth station systems.

ELECTRONICS SYSTEMS DIVISION, Ahmedabad, was set up in April 1970 to undertake the responsibility for the hardware aspects of the DAE-NASA Satellite ITV experiment, for which India has the full responsibility for the ground segment.

MICROWAVE ANTENNA SYSTEMS ENGINEERING GROUPS (MASEG), Bombay, was set up in February, 1970 for carrying out research and development in the field of Microwave Antenna Systems with particular reference to the space research programme.

TRANSPORT

ADMINISTRATIVE SET-UP—the Ministry of Shipping and Transport is responsible for the administration of subjects which fall within list I and II of the Seventh Schedule to the Constitution of India. The Ministry is administratively divided into different wings : Shipping, Ports, Development, Labour, Chartering, Roads and Finance. The following offices are also functioning under the administrative control of this Ministry : Attached Offices-Directorate General of Shipping, Directorate of Inland Water Transport ; of Lightships, Inter State Transport Commission; Autono-Subordinate Offices-Andaman Lakshadweep Harbour Works, Directorate General of Lighthouses and Lightships, Inter State Commission; Public Autonomous Bodies— Central Road Research Institute, Dock Labour Boards, Port Trust, Shipping Development Fund Committee, Seamen's Provident Fund Organisation; Public Sector Undertaking; Shipping Corporation of India, Mogul Lines Ltd., Hindusthan Shipyard Ltd., Cochin Shipyard Ltd., Central Inland Water Transport Corpn., Dredging Copn. of India, India Road Construction Corpn. and Delhi Transport Corpn.

ROADS

SHORT HISTORY OF ROAD PROGRESS—The present road system is a superstructure raised on the old Mughal and other roads. As early as 1928 the Jayakar Committee reported that road development was passing beyond the capacity of Provincial Governments and local bodies, that it was becoming a matter of national importance and it might be a proper charge of Central revenues. A central Road Organisation was set up in 1930 and a Transport Advisory Council in 1935.

The total length of roads in the country on 31st March, 1983 was about 16.75 lakhs kms. Of this 7.94 lakh kms. are surfaced road and 8.81 lakh kms. are unsurfaced roads.

ROAD ADMINISTRATION—Road development is shared by the Centre and States, the former being responsible for the National Highways and certain selected roads of strategic or other importance and the states for their own State and village roads. In 1947, the Central Government assumed the responsibility of the National Highway.

Indian Road Construction Corporation Ltd., was registered in December, 1976, as a Public Sector Undertaking for functioning as a specialised Commercial enterprise in the field of construction of roads, bridges, Air-field pavements and other allied civil engineering works in India and abroad. The authorised and paid up Capital of the company in Rs. 15

Crores and Rs. 10 Crores respectively.

CENTRAL ROAD FUND—This non-lapsable Fund, constituted in 1929, derives its revenue from the levy of an additional duty of customs and excise on non-aviation motor spirit. Money from the Central Road Fund is provided to States by way of allocations and grants-in-aid.

NATIONAL HIGHWAY—The Central Government under the National Highways Act, 1956, took the responsibility for the construction of National Highways. The existing system of National Highways includes about 33,612 km. of roads.

NATIONAL HIGHWAYS (Statewise)

(in Kilometre)

Andhra Pradesh	..2313	Maharashtra	..2393
Assam	..1366	Nagaland	.. 110
Bihar	..1913	Orissa	..1371
Gujarat	..1088	Punjab	.. 451
Haryana	.. 732	Rajasthan	..1258
Himachal Pradesh	.. 400	Tamil Nadu	..1707
Jammu & Kashmir	.. 544	Uttar Pradesh	..2341
Karnataka	..1313	West Bengal	..1455
Kerala	.. 418	Delhi	.. 72
Madhya Pradesh	..2686	Manipur	.. 212

LIST OF NATIONAL HIGHWAYS

<i>National Highway No.</i>	<i>Description of National Highways</i>	<i>Total Kilometre</i>
1.	Connecting Delhi, Ambala, Jullundur and Amritsar proceeding to the border between India and Pakistan.	469.20
1-A	Connecting Jullundur, Madhpur, Jammu, Banthal, Srinagar, Baramula and Uri	625.74
2.	Connecting Delhi, Mathura, Agra, Kanpur, Allahabad, Varanasi, Mohania, Barhi and Calcutta.	1.387.
3.	Connecting Agra, Gwalior, Shivpuri, Indore, Dhulia, Nasik, Thana and Bombay.	1,122.09
4.	Starting from its junction near Thana with National Highway No. 3 and connecting Poona, Belgaum, Hubli, Bangalore, Ranipet and Madras.	1,207.20
5.	Starting from its junction near Bharagora with National Highway No. 6 and connecting Cuttack, Bhubaneswar, Visakhapatnam, Vijayawada and Madras.	1,457.62
6.	Starting from its junction near Dhulia and National Highway No. 3 and connecting Nagpur, Raipur, Sambalpur, Baharagora and Calcutta.	1,578.32
7.	Starting from its junction near Varanasi with National Highway No. 2 and connecting Mangawan, Rewa, Jabalpur, Lakhnadon, Nagpur, Hyderabad, Kurnool, Bangalore, Krishnagiri, Salem, Dindigul, Madurai, and Cape Comorin (Kanya Kumari).	2,324.63
8.	Connecting Delhi, Jaipur, Ajmer, Udaipur, Ahmedabad, Baroda and Bombay.	1,365.29

<i>National Highway No.</i>	<i>Description of National Highways</i>	<i>Total Kilometre</i>
8-A	Connecting Ahmedabad, Limbodi, Morvi and Kandla	399.42
8-B	Starting from its junction near Bamanbore with National Highway No. 8-A and connecting Rajkot and Porbandar.	201.36
9.	Connecting Poona, Sholapur, Hyderabad, and Vijayawada.	77.50
10.	Connecting Delhi and Fazilka and proceeding to the border between India and Pakistan.	382.41
11.	Connecting Agra, Bharatpur, Jaipur and Bikaner.	547.36
12.	Connecting Jabalpur, Bhopal and Bina.	400.51
13.	Connecting Sholapur in Maharashtra and Chitradurga in Mysore.	419.42
22.	Connecting Ambala, Kalka, Simla, Narkanda, Rampur and Chini and proceeding to the border between India and Tibet and near Shipli La.	446.58
24.	Connecting Delhi, Bareilly and Lucknow.	439.34
25.	Connecting Lucknow, Kanpur, Jhansi and Shivrpur.	306.37
26.	Connecting Jhansi and Lakhnadon.	386.42
27.	Connecting Allahabad with National Highway No. 7 near Mangawan.	94.54
28.	Starting from its junction near Barauni with National Highway No. 31, and connecting Mazaffarpur, Pipra, Gorakhpur and Lucknow.	600.06
28-A	Starting from its junction near Pipra with National Highway No. 28 and connecting Sagauli, and Raxaul proceeding to border between India and Nepal.	67.18
29.	Connecting Gorakhpur, Ghazipur and Varanasi.	203
30.	Starting from its junction near Mohania with National Highway No. 2 and connecting Patna and Bakhtiyarpur.	208.40
31.	Starting from its junction near Barhi and National Highway No. 2 and connecting Bakhtiyarpur, Mokameh, Purnea, Dalkhola, Siliguri, Sivok, Cooch, Behar, North Salmara and proceeding generally via Nabari Charali and Amingaon to its junction with National Highway No. 37 near Pandu.	1,169.75
31-A	Connecting Sivok and Gangtok.	94.14
31-B	Connecting North Salmara to its junction National Highway No. 37 near Goalpara.	19.31
32.	Starting from its junction near Gobindpur with National Highway No. 3 and connecting Dhanbad, Purulia and Jamshedpur (Tatanagar).	195
33.	Starting from its junction near Barhi with National Highway No. 2 and connecting Ranchi and Jamshedpur (Tatanagar) and proceeding to its junction with National Highway No. 6 near Baharagora.	318.65
34.	Starting from its junction near Dalkhola with National Highway No. 31 and connecting Behampore, Barasat and Calcutta.	419.62
35.	Connecting Barasat and Bongaon and proceeding to the border between India and Bangladesh.	48.07
37.	Starting from its junction near Goalpara with National Highway No. 31 and connecting Gawahati, Jorhat, Kumargaon, Makhum and Saikhoa Ghat.	666.45

<i>National Highway No.</i>	<i>Description of National Highways</i>	<i>Total Kilometre</i>
38.	Connecting Makhuma, Ledo and Lekhapani.	54.10
39.	Connecting Kumargaon, Imphal and Pael and proceeding to the border between India and Burma.	424.86
40.	Connecting Jorhat and Shillong and proceeding to the border between India and Bangladesh near Dawki.	161.33
41.	Between its junction near Kolaghat with National Highway No. 6 and the point where it touches Haldia Port.	52.09
42.	Starting from its junction near Sambalpur with National Highway No. 6 and proceeding via Angul to its junction with National Highway No. 5 near Cuttack.	235.66
43.	Connecting Raipur and Vizianagram and proceeding to its junction with National Highway No. 5 near Vizianagram.	553.80
45.	Connecting Madras, Tiruchirapalli and Dindigul.	407.76
46.	Connecting Krishnagiri and Ranipet.	143.63
47.	Connecting Salem, Coimbatore, Trichur, Ernakulam, Trivandrum and Cape Comorin (Kanya Kumari).	585.38
47-A	Starting from its junction near Trichur with National Highway No. 47 and connecting with the West Coast Road and Challisseri.	31.40
49.	Connecting Madurai and Dhanuhkodi.	181.04
50.	Connecting Nasik with National Highway No. 4 near Poona.	199.15

Border Roads Development Board—Formed in March 1960 this Board seeks to accelerate the economic development of North Eastern border areas by making these area accessible through the development of arterial routes. The Organisation has diversified its activities into related areas of construction, such as hydel project, irrigation schemes, coal fields, hospitals and housing and residential complexes. Recently the Organisation is entrusted in construction and improvement of National Highway Nos. 52, 53 and 54. This includes 1300 km. development of road links in Meghalaya, covering about 135 km. construction of new roads in Jammu & Kashmir and Dhanbad colliery roads over 100 km. To date the Board has completed construction of new roads/improvement of existing roads to the extent of 20,450 kms. and surfacing of roads to the extent of 15,800 kms. This includes construction and maintenance of important roads like N. H. 1—from Pathankot to Uri ; N. H. 31—from Sivok to Gangtok ; N. H. 22—from Simla to Poo, the road from Puntsholing to Thimpu.

Standard Road Research and Technical Activities—The Central Designs Office of the Wing deals with type designs for route making for the National Highways and for furlong and boundry stones, principles to be followed in the erection of advertisement boards on road side, form of recording data on bridges, security of designs for bridges, production of roadrollers, manufacture of roadmaking machinery etc.

The Central Road Research Institute was opened at Okhla in Delhi on July 16, 1952 for the research on road engineering. Technical advice is also given to the State Governments on various problems concerning road works, such as, traffic surveys, road economy studies, road geometries, design of junction, siting of motor-fuel filling stations, etc.

The Corporation has completed works valued at about Rs. 97 crores, and is presently engaged in execution of nine projects aggregating Rs. 353.59 crores.

ROAD TRANSPORT

Passenger transport has been nationalised in varying degrees in the States and Union Territories. In many of them statutory corporation have been set up for providing the service. Goods transport continues to be the private sector. In Assam and North Bengal area however, the Central Road Transport Corporation Ltd. set up under Government auspices, with head-quarters at Siliguri, to fill the void created by the strike to the crew of the River Steam and Navigation Company and to meet the emergency created by the Chinese invasion, operates to maintain essential supplies in the region.

The Inter-State Transport Commission was set up in March, 1958 for the development, co-ordination and regulation of road transport services on inter-State routes in consultation with the State Government concerned. The Commission formulated five Zonal Permit schemes for the North, West, South, East, Central Zones for free movement of public carriers on all national and State highways on payment of road tax.

To ensure proper co-ordination between the different modes of transport on one hand, and the Central and State policies on the other, the Government of India have set up the Transport Development Council, Road and Inland Water Transport Advisory Committee and Transport Co-ordination Committee. An Association of State Road Transport Undertaking was set up in 1963, to co-ordinate the activities of the undertakings and to secure procedural uniformity, high standards of service and economic operations.

A Directorate of Transport Research has been organised in the Department of Transport as a district unit, which apart from the usual duties of advising the Ministry of Transport on various economic and statistical matters, analysis and interprets the economic implications of the current and future development programme.

Central Road Transport Corporation Ltd. was incorporated on 6th March 1964, with an authorised capital of Rs. 2 crores. The main function of this Corporation is to supplement the transport capacity by road on inter-State routes in India, specially in the eastern sector of the country.

State Road Transport undertakings were established in different States for providing co-ordinated and efficient transport services to the public. There are 57 State Transport Undertakings commanding fleet strength of 94,833 vehicles and catering 5.12 crores passenger every day.

The New Motor Vehicles Act, 1988 has been enacted to replace the old Act of 1939, so as to provide for ever growing requirements of sophisticated technology, simplify procedures, promote road safety and pollution control etc. The major threat of the new legislation has been to create conditions conducive to promote balanced growth of road transportation.

With a view to giving appropriate directions to the efforts for reducing the incidence of road accidents, the government has set up National Road Safety Council. With the recommendation of National Road Safety Council, State Level Road Safety Councils and District Level Road Safety Committee have been set up.

ROPEWAYS—Ropeways are used in India in areas in hilly and broken countries where valleys and streams abound and gradients are steep and where other forms of communication are primitive or non-existent. These conditions obtain in the foothills of the Himalayas and in some parts of South India. The following are the main ropeway operating in India at present (1) Darjeeling Bijanbari Monocable Ropeway, 5 miles long with one span of 6,000 ft. (2) Monocable Ropeway at Kalimpong, which climbs 3,400 ft. in its length. Both these ropeways are regarded as extensions to the railways system. (3) Cherra-Chatak Ropeways at Cherapunji in Meghalaya. (4) Annamalai Ropeway in South India serves tea and coffee gardens on the 5,000 ft. high plateau.

The world's longest and fastest ropeway was commissioned in Feb. 1966 at the Jharia coal mines in Bihar. It is 30 kilometres long and has been built at a cost of Rs. 3.33 crores. It conveys sand from the bed of the Damodar river to the mine site at the rate of 1.350 tonnes per hour.

The 8-km-long India's first passenger-cum-ropeway near Darjeeling was operated on May 8, 1968. It was constructed at a cost of Rs. 28 lakhs.

Apart from those several purposes, public or semi-public applications, Ropeway Transport is extensively used in the tea-planting districts. It is also found in coal-mining areas mainly in Bihar and W.Bengal, where it provides a particularly economical methods of transporting waste to spoil dumps. It is used in the manufacture of cement and in the working of quarries, mines, sand, gravel and clay pits. Ropeways are used elsewhere in civil engineering for large constructions, such as masonry dams and bridges. There are more than 100 ropeways operating in India today.

INLAND WATERWAYS

POSITION OF INLAND WATERWAYS—There are at present over 8,800 kms. of navigable waterways, of which the important ones are the Ganga and the Brahmaputra and their tributaries, the Godavari and Krishna and their canals, the backwaters and canals in Kerala, the Buckingham Canal in the Tamil Nadu and Andhra Pradesh, the West Coast canals and the Mahanadi canal in Orissa. At present, 2,500 kms. of rivers are navigable by mechanically propelled vessels and 5,700 kms. by large country boats.

The Central Inland Water Transport Corporation Ltd., came into existence in February 1967 with an authorised Capital of Rs. 4 crores. Ship-building, ship repairing and general engineering at its Rajabagan Dockyard, automobile repairs and body building at its Kulpi Workshop, lighterage and ferry services on the river Hoogly, dredging works, etc. are some of its activities.

Inland Waterways Authority of India, which came into existence on October, 1986 has been entrusted with the responsibility of development, maintenance and regulation of National Waterways in the country besides advising the Government of India on matters relating to Inland Waterways Transportation.

PORTS

CLASSIFICATION—With a coast-line of 5,690 km., India possesses eleven operational major ports, which are Bombay, Cochin, Mormugao, Visakhapatnam, Madras, Calcutta, Kandla, Paradeep, Tuticorin, New Mangalore and Nhava Sheva. The Indian coastline is also served by 19 intermediate ports and about 230 minor ports, of which 152 are working ports.

Technically a major port is one which is capable of taking oceangoing steamers with a registered tonnage of 4,000 or more and berth them along harbour and it must carry on a minimum requisit trade of 5,000,000 tonnes per annum. Other ports with an annual cargo tonnage below 100,000 but not less than 1,500 which have any importance for any reason (such as passenger amenities, customs or naval requirements etc.) are classified as intermediate ports and the rest as minor ports.

ADMINISTRATION—All the major ports are being administered by statutory autonomous Port Trusts. The Government of India formed a National Harbour Board in August in 1950 to advise the Central and State Governments on matters of journal policy relating to port management and development.

The aggregate port capacity was 132.73 million tonnes and was contemplated to be increased to 161.45 million tonnes at the end of March, 1990. The traffic handled at major ports upto December, 1988 has been 107.436 million tonnes. During 1980-81 the total number of ships that entered all the major ports for cargo operations was more than 8000. The number of man-days lost at major ports was 1.83 lakhs during 1981.

DREDGING CORPORATION OF INDIA was incorporated on 20 March, 1976. The paid up capital of the Corporation as on 31 March, 1984 was Rs. 28 crores against the authorised capital of Rs. 30 crores. The main activity of the Corporation is to provide integrated dredging services to the major and minor ports and Navel dockyards.

THE NATIONAL INSTITUTE OF PORT MANAGEMENT was set up at Madras on 1.2.85 with a view to imparting training to Port Officers in the field of Port Management and Port Technology.

MAJOR PORTS

BOMBAY—Situating about midway on the west of India, it is the only natural deep-water harbour of India. Possessing almost all the natural facilities for shipping, it is one of the safest and most spacious of the great seaports of the world. Almost one-half of the foreign trade of India passes through Bombay Port. The harbour covers 75 sq. miles and provides secure and ample shelter for shipping at all seasons of the year, being 14 miles long and 4 to 6 miles wide with a general depth varying from 22 to 40 feet. Seeds, hides and skin, cotton, oilcakes, piecegoods, turmeric, ores, tobacco are chief exports from Bombay. There are three docks at Bombay Port—Alexandria, Victoria and Prince's.

CALCUTTA—is the largest terminal port in S. Asia. Situated on the Hoogly river, 90 miles from Bay of Bengal, it commands the largest and richest hinterland. It not only handles the import and export trade of West Bengal, Assam and Bihar, but most of the exports of U.P., Orissa, and Madhya Pradesh are sent through Calcutta Port. The chief exports are coal, tea, gunnies, bones and bone-meal, skin, ham, iron and steel manufactures, lac, oil other than petroleum, scrap ores, pig iron, hides, mica. The principal imports are salt, foodgrains and flour machinery, petroleum, iron and steel, other metals, lubricating oil, cement, rubber, chemical products, soda-ash, sugar tobacco, paint, varnish etc. Calcutta suffers from inevitable disadvantages due to its location, several miles inland on the bank of the estuarine Hoogly, which is subjected to strong tides and bores. Calcutta's shipping is at the mercy of the tides. The ship can enter and clear only at a fixed hour. The port of Calcutta has two main docks—Khidderpore and Nataji Subhas. At Budge Budge, some 14 miles from Calcutta, there are 8 floating jetties for oil tankers. There are 5 dry docks at the port.

The main problem is the improvement in the Hoogly drafts. The supply of upland water through Farakka Barrage (see Index) would ease present situation. In spite of the improvements in the Hooghly bars, the deep-draft vessels would be unable to go up to upper reaches of the river. Hence the need arises for a subsidiary part at HALDIA, which is being built. The project envisages an auxiliary dock system to provide relief to Calcutta Port with 6 berths, mechanised facilities for handling bulk cargo like mineral ore, coal, etc. and an oil jetty in the river outside the dock system. The project is estimated to cost Rs. 53.83 crores, including a foreign exchange component of about Rs. 7 crores. An oil refinery is also expected to be built at Haldia. A steady 40 ft. draft would help to carry bulk carriers and tanker. For the present, Haldia is being used as an anchorage for the lightening or deep-draft foodgrain ships in fairweather season.

COCHIN—is 580 miles south of Bombay and 200 miles north of Cape Comorin. It is the finest natural harbour in the East. Annual traffic for this Port is around 2.4 million tonnes. Behind an opening from the sea which is about 400 yards wide, there is an area of 120 sq. miles of sheltered back water, a calm harbourage all the year round within a vast expanse of lagoons. Even in the worst monsoon weather, vessels can lie comfortably in the harbour and carry on landing and shipping operations. The Port of Cochin serves most of the Malabar and Travancore-Cochin area. It lies on the direct route to Australia and the Far East from Europe. Its hinterland is rich in natural produce, such as pepper, cardamom, tea, coffee, timber etc. The Port, which includes the Willingdon Island, is an area famous for its system of backwaters and inland waterways. The range of exports covers coir yarns, fibres, mats and matings, cashewkernels, cashew-shell liquid, spices, lemongrass, oil, raw earth concentrates, cotton, handloom piecegoods, cotton sewing, thread, crude, drugs, soap-hydrogenated oil and glycerine, imports cover a wide field including coal, chemicals, grains, hardware, paper, petroleum products, copra and metals.

KANDLA—has been developed after independence as a result of partition. With the loss of Karachi after partition, there was no big port along 1,000 mile long coast-line between Bombay and Karachi to serve the vast hinterland. So in 1948, the Government of India decided to start a harbour at Kandla in Gujarat, to relieve the pressure on Bombay Port. Kandla was declared a major port on April 8, 1955 with a hinterland—Rajasthan, Punjab,

Delhi, north and central Gujarat, western Madhya Pradesh, Jammu and Kashmir, western and central Uttar Pradesh. It is a centrally administered port. A Free Trade Zone created at the port on March 7, 1965 in a 320-acre near the port and provides for the establishment of small and medium industrial units and the necessary facilities for them. This is the first of its kind in this country. The township of Gandhidham has grown near Kandla on the Kutch coast.

MADRAS—This third largest port of India, on the east coast of India, has a vast hinterland comprising the states of Tamil Nadu, Andhra and Kerala. It was an open roadstead with surfbeated coastlines, but the present harbour has been formed by two concrete walls projecting into the sea. It is an artificial port developed by man's ingenuity. This links the city with the tobacco growing areas and bring large tonnages for export. Chief imports are oil, foodgrains, metals, timber, textiles, chemicals manures, steel, hardware, etc. Chief exports are hides and skins, edible oils, textiles, ores, tobacco, onions, mica etc.

Jawahar Dock, the wet dock, has been built at a cost of Rs. 8 crores, and was opened on 6th November, 1964. The dock can take in 6 vessels at a time.

MARMUGAO—One of the finest port in Asia, was once a Portuguese port, now an Indian port after the occupation of Goa by India. Ports Act of 1908 was extended to this port on 30th Nov., 1963 and it is recognised as a major port from 15th Dec. 1963. It has a great export trade including mainly iron and other materials. The Department of Transport took over the administrative control of this port on 8th Nov., 1962. Endowed with a fertile and minerally rich hinterland the port accounts for nearly 60 p.c. of the country's total iron export. Thanks to the rich iron ore deposits found in the region nearby and the cheap transport facilities, the iron ore traffic through Marmugao is prospering very well. About 50 ships on an average can be at anchor in the sheltered water of the port during the fair season between September and June. During monsoon only 15 ships can be accommodated.

PARADEEP—is situated in the Bay of Bengal, 45 miles south of the estuary of Mahanadi river. It is about 60 miles from Cuttack. The estuary work was started in Nov. 1962 with Yugoslav collaboration. The Port (India's deepest all-weather seaport so far) was formally declared open on March 12, 1966. Originally Orissa State Project primarily for the export of minerals and specially iron ore, it was taken over by the Central Government with effect from June 1, 1965. A Port Trust was set up at Paradeep on Nov., 1. 1966.

VISAKHAPATNAM—is a great ore-exporting and the only land-locked and protected Indian Port situated about midway between Calcutta and Madras. Owing to hill-range bordering in the sea, the harbour remains concealed from the vessels plying on the ocean outside. In October, 1933, the Port was opened to ocean-going ships. The principal articles of export are manganese ore, bunker, coal, tobacco, myroabalan and oilseeds. Exports are much larger than imports.

It is now the centre of ship-building industry in India, where Scindia Steamship Company first established ship-building yards.

NEW MANGALORE—is a tidal port served chiefly by backwater communication with hinterland. The backwater of Mangalore is 3½ miles long and 2,000 ft. wide. Mangalore is the north-western terminus of Southern Railway.

The chief exports are pepper, tea, cashew kernels, coffee, sandalwood from Karnataka, rice, salt, fish, dried fruits, fish-manure etc. Mangalore is the favorite port for the Lakshadweep Islanders who bring their coir and other coconut products for sale here.

TUTICORIN—This port is open all the year round and has next to Madras and Cochin, the largest trade in southern India. The harbour is so shallow that steamers anchor about 5 miles from the shore continuous dredging is necessary to keep the channel open between the sea and roadstead.

NHAVA SHEVA—India's most modern port. The inauguration of Nhava Sheva gives Bombay city two ports, and it is expected that, in the next half decade, much of the shipping activity in Bombay will move to Nhava Sheva from the current Bombay Port Trust, which will considerably change the face of the city.

The port is located on the island of Nhava Sheva, some of it on reclaimed land, across the famous Elephanta Caves, about 10 km from Bombay. The port is linked by road and rail to railway routes and National Highways, avoiding Bombay city altogether. Natural depths of water in the channel between the islands of Elephanta and Nhava Sheva will reduce the need for maintenance dredging.

The port covers an expanse of 2,500 hectares, the main port area covers 366 hectares, the township 422 hectares, the container station 438 hectares and 400 hectares have been charted for the installation of further facilities in the future.

The two main terminals of the port, the bulk handling facility and the container handling facility, are both computerized and heavily automated. The container facility especially is among the most modern in the world. Even the container cranes are automated. All the individual sub computer systems on the port are linked into an integrated port management computer system, developed by Howe India and Howe Canada, which is the most modern in the world today.

The port was built at a cost of Rs. 880 crores, and funded by World Bank aid, as well as by the Saudi Development Fund, Dutch financial institutions, and the Bombay Port Trust and the Kandla port. The port can handle 4.6 million ton this year, which the authorities hope will be expanded to six million ton by 1991 and 11 million by the end of the century.

SOME INTERMEDIATE MINOR PORTS

ALLEPPY—is the port premier and commercial centre in Kerala and is situated about 35 miles south of Cochin. A canal connects the port with the interior backwater. It possesses a roadstead affording safe anchorage during the greater part of the year. The chief exports are copra, coconuts, coir fibre and matting, ginger and pepper.

BHATKAL—is ideally situated to meet the need of Karnataka. A number of important industries are located in this area which is known as Nalanda area.

CALICUT—is some 42 miles from Tellicherry. The principal exports are coir, fibre, copra, coffee, tea, pepper, ginger, rubber, ground-nuts, raw cotton and fish manure.

CHANDBALI—is situated in an important part of Orissa and is 38 miles away from anchorage. It has a direct flourishing trade with Calcutta.

KAKINADA—is situated on the Cocanda Bay, just north of the Godavari river, some 90 miles south of Viskapatnam and 270 miles north of Madras.

KARIKAL—was French Settlement covering an area of 58 square miles and a set-board of 12 miles and is almost surrounded by Tanjore district.

KARWAR—is located in the shelter of Karwar head on the Arabian Sea.

NAGAPATTINAM—is the chief port in the Tanjore district about 12 miles south of Karikal.

PONDICHERRY—is now an important port of India on the Coromandel coast, 100 miles south of Madras. The roadstead possess a good anchorage.

QUILON—is the Coilum of Marco Polo. It is connected with Alleppy by backwaters. Vessels anchor about 3/4 miles from the shore and a railway siding runs up to the landing place.

SAURASHTRA PORTS—For purpose of administration, all the ports in Saurashtra have been divided into six groups, each under a port officer. The six groups are—

PORBANDAR—is the open roadstead in the Arabian Sea.

BHAVNAGAR—is the most developed port of Saurashtra.

MANDVI—is an open sea roadstead on the Gulf of Kutch.

BEDI—is a well-equipped lighterage port on the south of Gulf of Kutch.

VERAVAL—is located on the south-west coast of Saurashtra by the Arabin Sea.

OKHA—is a western Indian port situated in a detached portion of the Kathiawar peninsula. The port is available even to large ships at all stages of tides and at all seasons of the year.

SURAT—Situated 14 miles from the Arabian Sea with which it is connected by a river, is navigable only by small country crafts.

SHIPPING

SHIPPING CONTROL DEPARTMENT—Established in 1949 the Directorate-General of Shipping controls the whole problem of shipping in the country. Semi-Government shipping corporations, maritime conventions, seamen's welfare, nautical surveys, licences for deep-sea navigation and lighthouses are among the several maritime subjects which are dealt with by the Directorate.

MERCANTILE MARINE DEPARTMENT—For the purpose of administration of the Merchant Shipping laws and rules, the Indian coastline is divided into three districts—Bombay Mercantile Marine District, Madras District and Calcutta District. The most important functions of the Department are : (1) Registration of ships ; (2) Periodical survey of seaworthiness ; (3) Conduct of examinations for various certificates or competency as navigating and engineer officers.

The position of Indian tonnage as on 31.12.88 is given below :

	Coastal		Overseas		Total	
	No. of ships	Gross regd. tonnage (G.R.T.)	No. of ships	G.R.T.	No. of ships	G.R.T.
1. Net operative tonnage as on 30.11.87	127	4,37,774	235	50,31,516	362	54,69,290
2. Tonnage added from 1.1.88 to 30.11.88	14	35,919	18	3,42,850	32	3,78,769
3. Tonnage scrapped/sold during 1.1.88 to 30.11.88	1	10,294	16	2,47,013	17	2,57,307
4. Net operative tonnage as on 30.11.88	140	4,63,399	237	51,27,353	377	55,90,752

On 31st December 1988, Indian shipping companies had 377 ships of 55, 90,752 GRT comprising of 140 ships of 4,63,399 GRT for coastal and 237 ships of 51,27,353 GRT for overseas shipping.

Indian Shipping has also entered the era of containerisation. With a view to carrying Indian container cargo which, at present, is carried by foreign container consortium, three major Shipping lines viz., Shipping Corporation of India, Scindia Steam Navigation Co., and India Steamship Company, have formed a consortium called, India Container Lines, to provide container services on a fortnightly basis to U.K./continent at competitive freight rates.

Indian shipping is now operating on the following important routes : India/U.K. Continent, Middle East countries, USSR, and Black Sea, Poland, GDR. Aden and Red Sea Ports, West Asia (Gulf) Ports, West Africa, East Africa, Canadian Atlantic Ports, Mexico South America and Caribbean Island, US, Atlantic and Pacific, Riverplate, Brazil, Spain, Australia, New Zealand, Philippines, Indonesia, Japan, Sri Lanka, Bangladesh, Pakistan, East Canada, Bulgaria, Hungary, Czechoslovakia and Yugoslavia.

RECESSION IN SHIPPING INDUSTRY—Almost from the close of 1974 the shipping industry the world over slumped following the hike in oil prices and consequent cut back in production with too many ships charring the progressively falling quantum of cargo. Indian

shipping industry has not been on exception to this phenomenon. Government have been making continuous assessment of factors responsible for present slump in Indian shipping industry. The main contributory factor is want of adequate liner trade and bulk cargo aggravated by continuous increase in expenditure in ship operation costs.

COMMITTEES AND BOARDS

- (1) Consultative Committee of Overseas Shipping Interest—With a view to ensuring better understanding and co-operation between the Government of India, the country's export trade and the foreign shipping interest operating in India, the above additional committee was founded in 1955.
- (2) Consultative Committee of Shipowners—With a view to bringing about liaison between the Government and the Indian shipping industry, the advisory body has been constituted.
- (3) Shipping Co-ordination Committee and the Chartering Organisation—was set up in January 1958, to canalise the transport of Government owned/controlled public sector undertaking cargoes in Indian vessels.
- (4) National Shipping Board—was reconstituted in July, 1967. It advises the Government on all matters relating to Indian Shipping.
- (5) Central Advisory Committee for Lighthouses—This is a statutory body with advisory function, set up under the Indian Lighthouse Act of 1927 and consists of both officials and non-officials.
- (6) Central and Regional Advisory Committee for Sailing Vessels—were constituted in 1960. The Central Committee advises the Government on important matters of all-India nature affecting the sailing vessels industry. There are at present four Regional Advisory Committees, each at Bombay, Jamnagar, Tuticorin and Masulipatnam.
- (7) Merchant Navy Training Board—was constituted by the Government of India to function as a Representative Advisory Board to deal with the problems relating to the co-ordination and supervision in respect of the different merchant navy training establishments.
- (8) National Welfare Board for Seafarers—was set up by the Government of India in 1958, inter alia, to advise the Government on the measures to be taken for promoting welfare of seamen etc.
- (9) Indian National Steamship Owner's Association—came into existence in 1930 to promote and protect the interest of national shipping, ship-building and allied industries.
- (10) Deck Passengers Welfare Committees—are in existence at the ports of Bombay, Calcutta, Madras and Nagapattinam and look after the facilities of deck passengers of these ports.

MERCHANT SHIPPING ACT—Passed in 1958, this Act, among the other things, provides for the first time in the history of independent India, the opening of a register of Indian ships. It also provides for the setting up of a National Shipping Board and a Shipping Development Fund which is made up of loans and grants from the Centre and provide finance for shipping development.

Indian ships are now operating in most of the important overseas liner routes, viz., India/U.K. Continent, India/U.S.A. (Atlantic & Pacific coasts), India/GDR, India/Mauritius, India/Malaysia and India/Bangladesh.

SHIPPING CORPORATION AND OTHER COMPANIES

The first two Shipping Corporation were the Eastern Shipping Corporation and the Western Shipping Corporation. These two Government-sponsored Corporation were merged Oct. 1961 under the name of Shipping Corporation of India Ltd. It has an authorised capital

of Rs. 100 crores and Paid up capital of Rs. 70.19 crores. It has a fleet of 125 vessels in December, 1988 aggregating 28.76 lakhs GRT and 48.17 lakhs DWT including passenger-cum-cargo ships and tankers. In addition to this 10 vessels are on order in shipyards in India and abroad of 2.95 lakhs GRT and 5.06 lakhs DWT. The Shipping Corporation of India and Islamic Republic of Iran Shipping Lines, Teheran (Iran) established a joint shipping line in Iran, named Irano Hind Shipping Company. The Company started its operation from June 1975.

The Mogul Line Ltd., another public sector shipping company, was merged with the Shipping Corporation on 30th June, 1986. At the time of the merger, the company had nine vessels of 1,54,924 DWT, which become a part of the fleet of the SCI. In addition three vessels of 26,450 DWT each which were on order with the Hindustan Shipyard also became a part of the fleet of the SCI. These vessels are expected to be delivered during 1988-89.

Private Shipping Companies (numbering 61) own a combined tonnage of 2.54 million GRT about 44.78 per cent of the total tonnage of 5.68 million GRT in the country as against 55.22 per cent owned by the public Sector Shipping Companies i.e., Shipping Corporation of India and Moghul Lines. They continue to receive assistance from Government through the Shipping Development Fund Committee.

Some Private Shipping Companies, now participating in the overseas and coastal trade are : (1) Scindia Navigation Company, (2) India Steamship Co. Ltd., (3) Great Eastern Shipping Co., (4) Bharat Line, (5) Malabar Steamship Co., (6) Surendra Overseas, (7) Ratnakar Shipping Co., Bombay, (8) Chowgule Shipping Co., Bombay, (9) Nilhat Shipping Co. Ltd., Calcutta.

Merchant Navy Training

Following are the Training Centre—(1) T.S. Rajendra, in replacement of T.S. Dufferin, was commissioned on 16th April, 1972. The annual intake of cadets on the new ships is 125 as against 80 on Dufferin; (2) Directorate of Marine Engineering Training, Calcutta/Bombay imparts training to Marine Engineering cadets; (3) Lal Bahadur Sastri National and Engineering College, Bombay (Institution for post-sea instructional course in navigation & Engineering); (4) T.S. Bhadra at Calcutta; (5) T.S. Mekhla at Visakhapatnam; (6) T.S. Navalakshi at Navalakshi (last three organise pre-sea training for dock and engine room ratings).

PRELIMINARY COURSE FOR EXTRA MASTER AND EXTRA FIRST CLASS ENGINEER'S CERTIFICATES—As a first step, towards the ultimate objective of concluding examination for extra certificates in India preparatory classes have been started. For Engineering officers, the classes are being conducted in the D.M.&T., Calcutta and those for nautical officers are being held in Nautical and Engineering College, Bombay.

RATINGS TRAINING ESTABLISHMENTS—Three Ratings Training Establishments, viz., Trainingship Bhadra, Trainingship Mekhala and Trainingships Navalakshi, train seamen for employment both in the engineering room and deck sides. During 1984-85 Government had decided to suspend pre-sea training and instead start in service Refresher courses for seaman under STCW convention in T.S. Bhadra and T.S. Mekhala and T.S. Navalakshi has been closed down.

RECRUITMENT OF SEAMEN—Seamen's Employment Offices were set up at Bombay and Calcutta in 1954 and 1955 respectively, for regulating the supply of seamen of foreign-going ships on the principle of rotation.

SEAMEN'S WELFARE OFFICES—at the ports of Bombay, Calcutta and Madras and at Glasgow, London and Liverpool abroad look after the interests of the seamen in all affairs.

Shri Narottam Morarji Institute of Shipping—was established during 1969-70 imparting training and holding examinations in subjects dealt with on the commercial side of shipping.

SAILING VESSELS—The number of ships on order on Indian and foreign ship-yards as on 31.12.87 was 10 comprising 4,58,380 GRT. The number of Sailing Vessels registered in India during 1988 is 18,447.

SHIPYARDS—Ship building in India was first started by Scindia Steam Navigation Company in 1919. On June 21, 1941 the foundation was laid at Viskhapatnam. The keel of the first ocean-going vessel of 8,000 tonner steamship, Jala Usha, was laid in June 1946, and it was launched in March 1948. This Viskhapatnam Shipyard was purchased by the Government from the Scindia in March 1952. The management is entrusted to the Hindustan Shipyard Ltd., 1/3 share of which is owned by the Government. The total issued and paid-up capital of the company was Rs. 3988.49 lakhs. This shipyard has so far built 92 vessels of various types and sizes aggregating 9,88,595 DWT/6,80,472 GRT.

Government of India signed an agreement with the Mitsubishi Co. of Japan to build the second shipyard at Cochin comprising a building dock for building ships upto 85,000 DWT and a ship repair dock for repairs to ship up to 1,00,000 DWT at an estimated outlay Rs. 45.42 crores (see index). The shipyards formally went into production.

The total paid up capital of the company is Rs. 68.33 crores. This shipyard has so far delivered 4 vessels of 75,000 DWT each.

Mazgaon Dock Ltd., Bombay and Garden Reach Ship Builders and Engineers in Calcutta are under Ministry of Defence. Beside Ship building, ship repair facilities have also been established at these yards.

Hoogly Dock and Port Engineers, Calcutta, one of the oldest shipyards, established in 1918 was nationalised on 28th June 1984. The paid-up capital of the company is Rs. 8.47 crores at present.

SHIP REPAIR—Dry docking and repair of 40 ships totalling 2,10,228 GRT have been carried out during the year upto 31.12.1985.

LIGHTHOUSES AND LIGHTSHIPS—The Department of Lighthouses and Lightships is self-supporting department and its accounts are maintained on a commercial basis. The revenue of the Department is derived from the light-dues levied on shipping under the provisions of the Indian Lighthouse Act, 1927. The Department is maintaining various types of navigation aids which include 155 lighthouses, 14 radio beacons, 12 Decca Navigator chain stations, 6 fog signals, 2 radars, 1 light vessel, 5 Radar Responder Beacons, 11 Recons, 12 light buoys and a large number of light buoys, etc. round the coast of India. The department is also maintaining five launches and two lighthouse Towers. A training centre to train young men for the specialised requirements of the Department was started in Calcutta in January 1960. There are lighthouse workshops at Bombay, Calcutta, Madras and Jamnagar.

CIVIL AVIATION

ORGANISATIONAL SET-UP—Department of Civil Aviation is under the independent charge of the Minister of State (Civil Aviation and Tourism). In the field of civil aviation, the operation of air transport is entrusted to four Public Undertaking namely Air India for international services and the Indian Airlines Corporation for domestic services and to neighbouring countries like Afghanistan, Nepal, Burma, Pakistan, Bangladesh, Maldives and Sri Lanka and the Vayudoot which operates as a feeder service for domestic destinations and covered by the Indian Airlines. Pawon Hans Limited, set up in 1949 has helicopters leased to ONGC and to various States and Union Territories like Andaman & Nicobar Island, Lakshadweep Island, Meghalaya and Sikkim. The regulatory functions and the provisions of the required infrastructure for civil transport operations are provided by the Directorate General of Civil Aviation. The broad lines of activity of this Directorate generally are : (i) construction, maintenance and management of terminal buildings, runways aprons etc. of civil aerodromes, (ii) provisions of navigational aids and communication facilities to civil air transport, (iii) enforcement of air transport regulations including safety requirements such as certification of air-worthiness of aircraft licensing of pilots, navigators, and other air crews and regulation of air-traffic, (iv) enquiries into air accidents and incidents, (v) research and development.

The two corporations, viz., Indian Airlines and Air-India came into existence on 15th June, 1953. The Indian Airlines Corporation provides service within India and also to the neighbouring countries. At present, it operates to a total of 71 stations including ten foreign countries (Lahore and Karachi in Pakistan, Kathmandu in Nepal, Colombo in Sri Lanka, Male in Maldives, Dacca and Chittagong in Bangladesh, Kabul in Afghanistan, Bangkok in Thailand and Singapore.) IA operates more than 100 flights per day. Its fleet consists of 48 planes. Air India is one of the few airlines in the world to have an all-jet fleet. It has 21 planes in its fleet as on 31st October 1989.

Air-India now operates scheduled passenger and cargo services from Bombay and several other Indian cities—Calcutta, Delhi, Madras, Trivandrum, Goa, Bangalore and Hyderabad—to Africa (Lagos, Mauritius, Lusaka and Harare); to North America (New York); to Europe (London, Paris, Frankfurt, Geneva, Rome, Zurich, Brussels, Amsterdam and Moscow); to West Asia (Doha, Abu Dhabi, Dahrain, Dubai, Bahrain, Kuwait, Muscat, Jeddah, Riyadh, Ras-al-Khaymah and Sharjah) and East Asia (Bangkok, Dacca, Hong Kong, Tokyo, Osaka, Kuala Lumpur, Singapore and Sydney). The Corporation has ten 747-237, three Airbus A300-B4 and six Airbus A310-300 aircraft in its fleet. Air-India entered the hotel industry as an allied activity to offer greater service to its passengers and established a wholly owned subsidiary called the Hotel Corporation of India. The HCI is at present running Bombay Airport Centaur Hotel, Delhi Airport Centaur Hotel, Juhu Beach Centaur Hotel at Bombay, and Centaur Lake View Hotel at Srinagar. It is also running a Japanese style hotel in collaboration with the Hokke Club of Japan at the Buddhist pilgrim centre of Rajgir in Bihar. Two flight kitchens at Delhi and Bombay airports are also managed by HCI for providing catering arrangements to the airlines. Apart from going into construction and operation of hotels, the company also operates the Mayur Restaurants at London and Sydney to promote Indian food jointly with Tea Board of India. The total capital of the corporation stands at Rs. 148.73 crores as on 31st March, 1988. The foreign exchange earned and saved during the year period April–December, 1988 was Rs. 146.51 crores. Vayudoot Limited was incorporated in January 1981 as a joint venture of Air India and Indian Airlines with equal Equity participation. It became a public limited company in February 1983. It has an authorised capital of Rs. 25 crores. The present subscribed capital of the company is Rs. 18.2 crores. At present Vayudoot has fleet position of 11 planes. The operational network of Vayudoot comprises 93 stations. It provides courier service to 95 major cities in the country.

Pawan Hans Limited, which was formally known as Helicopter Corporation of India was incorporated on 15th October, 1985. The Capital advanced to the Corporation so far is Rs. 113.76 crores. Of this Rs. 24.50 crores has been contributed by the Oil & Natural Gas Commission and Rs. 89.26 crores by the President of India.

In order to achieve the objectives of the Corporation, contracts were signed with M/s. Westland Helicopters Limited, M/s. Rolls Royce, UK and M/s. Aerospatiale, France on 15th March '86, 11th April '86 and 31st March '86 respectively for acquisition of 21 Westland WG 30 helicopters and 27 Dauphin SA 365 N helicopters. The total value of contracts for purchase of helicopters and related ground support equipment, spares, training aids, etc. amounted to £ 70 million and FF547.3 million respectively. The company has now 19 Westland and 20 Dauphin helicopters in its fleet.

The Indira Gandhi Rashtriya Uran Akademi is an autonomous organisation, which was set up for the purpose of imparting ground and flying training to students aspiring a career in aviation. It has its registered office at Fursatgory, Rae Bareilly.

On 27th April, 1987, Directorate of Agricultural Aviation was transferred from Ministry of Agriculture to Ministry of Civil Aviation, the control of which was given to Vayudoot Limited. The present fleet strength of the Directorate are 26 aircrafts and 31 helicopters. The main functions of the Department are (i) to fight the locust invasion (ii) to protect various crops from pests and diseases and (iii) to undertake areal seedings under afforestation programmes.

COMMISSION OF RAILWAY SAFETY—came under the administrative control of the Ministry of Tourism and Civil Aviation in May, 1967.

At the end of October 1988, 701 aircraft held current Certificates of Registration and 358 aircrafts held current Certificates of Air-worthiness. The number of gliders registered at the end of October 1988 was 112.

TRAINING CENTRES AND FLYING CLUBS—The Central Government is running the Civil Aviation Training Centre at Allahabad, which comprises of the aerodrome and the communication school and which trains pilots, aerodrome officers, control officers, fire operators, radio operators and technicians.

At present there are 25 Flying Clubs and 5 State-run flying school/institutions in the country with their headquarters at Bangalore, Baroda, Hyderabad, Bombay, Behala (Calcutta), Ludhiana, Coimbatore, New Delhi, Madras, Nagpur, Patna, Patiala, Guwahati, Banasthali, Vidyapith (Rajasthan), Lucknow (with branch at Kanpur), Jamshedpur, Karnal, Indore (with branch at Bhopal), Jullundur Cantt., Jaipur, Trivandrum, Bhubaneswar, Raipur, Hissar and Amritsar. Hind flying Club and M.P. flying club has a branch at Kanpur and Bhopal respectively.

There is a Department Gliding Centre at Poona and 7 Gliding Clubs and 7 Gliding wings of the flying clubs at New Delhi, Kanpur, Agra, Patiala, Jullundur Cantt., Hissar, Pune, Pilani, Nasik, Jaipur, Amritsar, Patna, Kanpur and Ahmedabad.

AERODROMES—There are 87 civil aerodromes and 28 civil enclaves of defence aerodromes controlled and operated by the Civil Aviation Department. 4 aerodromes at Calcutta, Bombay, Madras and Delhi are international airports.

Major aerodromes are : Agartala, Ahmedabad, Amritsar, Guwahati (Barjhar), Jaipur, Lucknow, Nagpur, Patna, Tiruchirapally, Varanasi, Trivandrum, Hyderabad, Bhubaneswar, Aurangabad, Shillong, Panagarh, Khajuraho, Imphal, Bhub, Mangalore, Ranchi, Udaipur. There are also 19 intermediate and 44 minor aerodromes.

The aerodromes at Ahmedabad, Patna, Bombay, Calcutta, Delhi, Madras, Tiruchirapally, Varanasi, Port Blair, Trivandrum and Amritsar have been declared customs aerodromes. **THE INTERNATIONAL AIRPORT AUTHORITY OF INDIA**—is responsible for the management of the four international airports. Namely, Bombay, Calcutta, Delhi and Madras and for providing various services and facilities at these airports.

NATIONAL AIRPORT AUTHORITY—was formed on 1st June, 1986, for the management and control of civil aerodromes, civil enclaves and aeronautical communication stations. It has two training centres, one at Allahabad and another at Calcutta.

AIR TRAFFIC CONTROL—As a member of the International Civil Aviation Organisation, India has to meet the standard laid down by that organisation. So Air Traffic Control Organisation has been established for the maintenance of air traffic control services for international aircraft landing and passing through the country as well as internal air services.

AIRCRAFT MANUFACTURE—The Hindustan Aircraft Ltd., at Bangalore, which was started as a repair, overhaul and assembly depot, has now grown into an important manufacturing plant. The factory, founded in 1940 as a private company came under the complete management of the Government of India in 1945. Today, the factory is self-sufficient establishment with several sections. It undertakes repair and overhaul work for overseas customers.

An outstanding achievement of the factory is the designing and manufacture of a trainer aircraft named HT-2 in 1952. This marked the beginning of aircraft production in India. The manufacture of modern light jet fighter is the latest venture of the factory. India's first supersonic fighter, HF-24 successfully took to air on its probing flight at Bangalore on 24th June, 1961 (See also Index).

The Research and Development of Civil Aviation Department has designed and developed a prototype light aircraft Revathi-1 at its technical centre in New Delhi, which made its maiden flight on Jan. 13, 1967.

METEOROLOGICAL AFFAIRS

INTRODUCTION—Instituted in 1875, the meteorological affairs in the country are dealt by the Indian Meteorological Department of the Government of India.

ORGANISATIONAL SET-UP—The Head of the Department is the Director General of Observatories who is assisted by four Deputy Director Generals, Viz., Deputy Director General (Administration), Deputy Director General (Instruments), Deputy Director General (Climatology and Geophysics) and Deputy Director General (Forecasting). For efficient control of observatories India is divided into five regions, each under a Regional director, with headquarters at Bombay, Calcutta, Madras, Nagpur and New Delhi. Meteorological Services are rendered to:

- (1) Aviation;
- (2) Defence Services;
- (3) Shipping, ports and fishing crafts;
- (4) Inland warning are issued for adverse weather;
- (5) Services to agriculture: Farmer's Weather Bulletins containing forecast for next 48 hours with further outlook for subsequent 2 days are issued for broadcast daily through 69 stations and broadcasting the bulletins in 27 languages;
- (6) Weather services to public: All-India Daily Weather Reports from Pune and Regional Daily Weather Reports from Bombay, Calcutta, Madras, Nagpur and New Delhi are issued: Also done through A.I.R. and Door Darshan;
- (7) Mountaineering expeditions, survey and pilgrimage parties.

Observational Organisation—consist of: Surface Observatories 553; Hydrometeorological Observatories 657, Pilot Balloon Observatories 63; Radiosonde Observatories 33; Radio/Radarwind Observatories 33; Radiation Observatories 39; Cyclone warning Radar Station 8; Current Weather Observatories 81; Weather Radar Stations 11; Ozone Measurement Stations 5; Ozonesonde Stations 3; Radio Meter Sonde Stations 8; Atmospheric Electricity Stations 2; Seismological Observatories 52.

Training and Research—The Training centre at Pune provides training in meteorology to the departmental and extra-departmental candidates at the Elementary, Intermediate and Advanced levels. Special lectures on agricultural meteorology and computer application. Telecommunication organisation, Application of electronics to Mec. instruments and upper-air instrumentations, were arranged for the trainees to advanced courses. Programmes and studies in meteorology and other subjects like astro-physic, geo-magnetism and seismology which form part of the scientific activities of the Department, receive growing attention and importance. The Indian Institute of Tropical Meteorology, Pune has been established with the assistance from the U.N. Special Fund. The first four divisions of this Institute, viz., (i) Forecasting Research, (ii) Climatology and Hydro-meteorology, (iii) Physical Meteorology and Aerology, (iv) Instrumental and Observational Techniques, and (v) Theoretical Studies supporting facilities have been established. Studies are carried out at the Institute on ocean waves, monsoon rainfall, atmospheric turbulence and aircraft performance, waves, jet streams, meteorology and supersonic flight, storm surges, solar radiation etc. The Indian Institute of Astrophysics, Kodaikanal—is engaged in research in all branches of astrophysics, particularly solar physics, stellar physics and radio astronomy. The Indian Institute of Geomagnetism, Bombay—with its headquarters at Colaba, together with the Primary Magnetic Observatory at Alibag and the two Field Magnetic Observatories at Annamalai Nagar and Trivandrum continue its activities. There is also the Indian Ocean and Southern Hemisphere Analysis Centre, Poona. In addition to the above small whole time research units are functioning at 5 Regional Centres—New Delhi, Calcutta, Nagpur, Bombay and Madras.

Seismology—The Directorate of Seismological Organisation in India continues to function at the Headquarters Office at Delhi. It is responsible for co-ordinating the seismological work in

the country. The Central Seismological Observatory at Shillong continues the work of determination of earthquake epicentres from the data received from Indian observatories.

Hydro-meteorology—Service in the field of hydro-meteorology are rendered to the Central Water and Power Commission and to the engineers connected with various river valley and flood control projects. Units functions at New Delhi, Pune and Calcutta.

Geo-magnetism—The Colaba Observatory, together with the primary magnetic observatory at Alibagh and two field magnetic observatories at Trivandrum (Kerala) and Annamalainagar (Tamil Nadu), continue their activities in geo-magnetism.

Atmospheric Electricity—Measurements of electrical potential gradient at the surface are conducted at New Delhi, Pune and Calcutta.

Spherics—The stations at Sriniketan (W. Bengal), Nagpur and New Delhi continue to record the directions of the arrival of atmospherics associated with thunderstorms.

Ozone—Measurements are continued at New Delhi, Dum Dum (W. Bengal), Kodaikanal (Tamil Nadu), Varanasi (U.P.) and Srinagar (Kashmir) for determining the total amount and vertical distribution ozone in the atmosphere.

Astrophysics and Astronomy—The Astrophysical Observatory at Kodaikanal continues its work in the field of Solar Physics, Stellar Physics and Radio Astronomy.

International Collaboration—This Department continues to take active part in the activities of the World Meteorological Organisation and the International Civil Aviation Organisation. A Supplementary Meteorological Office of the Department continues to function at Kathmandu (Nepal).

Radio-Meteorology—During 1969-70, one weather radar and one wind finding radar were installed at Begumpet airport and Goa Observatory, respectively.

Satellite Meteorology—The Department has one station, located at Colaba, Bombay, for receiving televised picture from Meteorological Observatories were functioning under the Kosi and Flood Control Scheme.

Agricultural Meteorology—There are 122 Agromet Observatories.

Radiation—A network of 24 radiation stations are functioning in the country under the technical control of the Central Radiation Laboratory at Pune.

TOURISM

TOURISM ORGANISATION—The Ministry of Tourism was formed with effect from 12.5.86 and remained under the charge of a Minister of Cabinet rank till 14.7.87. There after a Minister of State for Civil Aviation was assigned independent charge of the Ministry of Tourism. With effect from 15.2.88, the Ministry has again been placed under the charge of a Cabinet Minister assisted by a Minister of State. The activities of the Ministry are :

(1) Promotion and publicity at home and abroad with the object of promoting travel to and within India. (2) Compilation, collection and dissemination of tourist information in India and abroad and attending to enquiries from international tourists and travel agents, airlines, steamship companies, tour operators and hotels (3) Facilitation work such as simplification of frontier formalities in respect of international tourists. (4) Cooperation with international travel and tourists organisations at Government and non-government levels, (5) Development of tourist facilities and infrastructure at places of interest to international and domestic tourists, (6) Regulation of activities at the various segments of the travel trade such as hotels, travel agents, tour operators, wild life outfitters, guides, tourist operators and shop keepers entering to tourists needs.

The Dept. of Tourism is under the charge of a Director-General who is also ex-officio joint Secretary to the Government of India and has 7 main divisions, Planning and Programming Division, Publicity and Conference Division, Travel Trade and Hospitality Division, Accommodation Division, Supplementary Accommodation and Wild Life Tourism Division, Market Research Division and Administration, Finance and Coordination Division.

The Department carries out extensive publicity and promotion campaigns through its 18 tourist offices and one tourism promotion office located in the major tourist generating

markets of the world viz. USA, Canada, U.K., Western Europe, Australia, south East Asia, Japan and West Asia.

At present there are 565 hotels on the approved list of Department of Tourism and these provide 36,369 rooms. In addition till end 1988, 245 new hotel projects in various States have been approved by the Department and when completed, these will further add 16,568 rooms.

Hotels are also classified under the star system on the basis of standard of services and facilities provided by them. During the year 1988, 35 more hotels are classified bringing the total to 459 in the country with 28,228 rooms. The Department also approves restaurants. The number of such restaurants is 173.

There are 285 travel agents and tour operators and 170 tourist car operators on the approved list of the Dept. of Tourism.

A total of 15,84,323 foreign tourists (including nationals of Pakistan and Bangladesh) visited India during 1988 registering an increase of approximately 6.5 p.c. over 1987. The gross foreign exchange earnings during the year 1987-88 were estimated at Rs. 1,890 crores. The projected foreign exchange earnings for two year 1987-88 are Rs. 2,000 crores.

YATRI NIWASES—Under this scheme the Government of India assists State Governments and Union Territories to set up inexpensive accommodation at important Tourist Centre. During last four years 27 Yatri Niwases at Port Blair, Panaji, Kurukstra, Kancheepuram, Satpada, New Delhi, Dakor, Jullundar, Pondicherry, Darjeeling, Pahalgam, Quilon, Trivandrum, Konark, Hyderabad, Shegaon, Nagapattinam, Allahabad, Aizawal, Agartala, Cochin, Trichur, Kohima, Mysore, Gangtok, Tura and Havelock were constructed.

INDIA TOURISM DEVELOPMENT COUNCIL—Incorporated on 31st March, 1965, it is the principal advisory body on matters relating to Tourism. It is presided over the Union Minister of Tourism and Civil Aviation.

INTERNATIONAL CONTRACTS—The Department of Tourism is a member of the following international tourist promotion organisations—

(1) International Union of Official Travel Organisation (IUOTO), (2) IUOTO'S Regional Travel Commission for South Asia (SATC), (3) Pacific Area Travel Association (PATNA), (4) American Society of Travel Agents (ASTA), (5) Universal Federation of Travel Trade Association (UFTTA).

INDIA TOURISM DEVELOPMENT CORPORATION LTD.—was set up on 1st Oct. 1966 with an authorized capital of Rs. 30 crores. It authorised capital has now been increased to Rs. 60 crores. As on 1st April, 1988 the equity capital of the Corpn. stood at Rs. 5,227.44 lakhs. Profit earned by the Corporation during the years 1987-88 is Rs. 864.07 lakhs. The activities of this corporation include the construction of hotels, management of tourist bungalows and canteens, providing of transport facilities for tourists, production of tourist publicity and promotional material, sponsoring and organising of entertainment programmes for tourists and operation of duty-free shops at international air/sea ports.

SUBSIDIARY COMPANIES OF ITDC—With incorporation of another joint venture company, in the name and the style of Dony's Polo Ashok Hotel Corporation Ltd. for a hotel project at Itanagar on August 10, 1987, the number of subsidiaries of the corporation increased to six. The five subsidiary companies in operation include, Ranchi Ashok Bihar Hotel Corporation Ltd., Utkal Ashok Hotel Corporation Ltd., Assam Ashok Hotel Corporation Ltd., Madhya Pradesh Ashok Hotel Corporation Ltd., Pondicherry Ashok Hotel Corporation Ltd.

NETWORK OF ITDC SERVICES—The present network of ITDC services consists of the Ashoka Group of Hotel (25 hotels, including 2 beach resorts), 4 joint venture hotels, 1 forest lodge, 1 travellers lodge, 9 restaurants including 6 airport restaurants, 11 Ashok Travels & Tours Units, 1 tourist service stations, 1 automobile workshop, 1 fast food restaurants at Shri Mata Vaishna Devi Shrine and 1 joint venture Indian cuisine restaurant at Moscow, 11 duty/tax free shops and 3 sound and lights shows. The Corporation is also handling catering services at Western Court, Ashok Mayur Restaurant at Vigyan Bhavan

and the State Guest House & Hospitality Centre at Hyderabad House, New Delhi besides providing managerial services to three State-Owned hotels i.e., Hotel Pinewood Ashok (Shillong), Hotel Imphal Ashok (Imphal), Hotel Japan Ashok (Kahima); one joint venture hotel i.e., Hotel Brahmaputra Ashok (Guwahati); three private sector hotels, Hotel Ratanda Ashok (Jodhpur), Hotel Executive Ashok (Pune), Hotel Shalini Palace Ashok (Kolhapur) and Delhi Restaurant, Moscow.

Recently the curriculum of the 3 year's Diploma Course was reviewed and revised in consultation with representatives of the Hotel and Catering Industry to ensure that the training programmes are geared to the present day requirement of the industry.

National Council for Hotel Management & Catering Technology at New Delhi is an autonomous organisation registered under the Societies Registration Act, 1860 is responsible for conducting Joint Entrance Examination for admission to the first year of 3-year Diploma Course at the 12 Institutes of Hotel Management, Catering Technology & Applied Nutrition.

Indian Institute of Tourism and Travel Management, established in 1983 is designed as a catalyst for offering post graduate level academic opportunities to prepare the managerial cards for the Tourism industry and its related sector.

CHEMICAL & PETROCHEMICALS

ORGANISATIONAL SET UP : The main activities of the Department in relation to the industries activities of the Department in relation to the industries allocated to it are overall sectoral planning and the development and control of these industries under the Industries (Development and Regulation) Act as well as monitoring of production and distribution. The administrative and the managerial control of the public sector undertakings engaged in the manufacture of various items in these industries is also one of the major functions of the Department. A Secretary is in the overall charge. The Department has four divisions dealing with Administration, Chemicals, Petro Chemicals and Drug & Pharmaceuticals. There is another Department looking after work relating to Bhopal gas leak disaster and special laws relating there to. The Department has administrative control over eight public sector undertakings and two other organisations.

DRUG & PHARMACEUTICALS INDUSTRY : The trend of increasing in a large number of essential drugs was maintained during 1988-89. Significant increase in production is expected in Antibiotics, Chloramphenicol powder/Palmitate, Ampicillin, Doxycycline, Sulpha drugs, Vitamins, Analgesics, INH, Ethambutol, Chloroquine Phosphate, Diloxanide Furoate, Propanolol, Methyl Dopa, etc. In many cases the decline in production in the organised sector has been caused by cheaper production from small scale sector. Hence the availability of these drugs in the market has not been adversely affected.

The production of drugs and pharmaceuticals maintained the growth pattern of the previous years. The production of bulk drugs and formulations (in terms of value) increased from Rs. 345 crores and Rs. 1660 crores respectively in 1982-83 to Rs. 480 crores and Rs. 2350 crores respectively in 1987-88. Their production is estimated to be of the order of Rs. 530 crores and Rs. 2690 crores respectively in 1988-89.

The exports of drugs and pharmaceuticals during 1986-87 and 1987-88 have been of the order of Rs. 222.96 crores and Rs. 289.60 crores respectively. The Department is laying great emphasis on the export of drugs and pharmaceuticals. A perspective plan for 15 years has been drawn up to further increase exports of drugs and pharmaceuticals.

The total imports of bulk drugs, intermediates, chemical solvents, etc. increased from Rs. 285.94 crores (CIF) in 1986-87 to Rs. 343.50 crores in 1987-88.

INDIAN DRUGS & PHARMACEUTICALS LIMITED—was set up on 5th April, 1961. It has five plant one each located at Rishikesh for manufacture of antibiotics, at Hyderabad for manufacture of synthetic drugs, at Madras for surgical instruments, at Gurgaon for formulations and at Muzaffarpur for drugs and chemical intermediates. It also has three subsidiaries—Uttar Pradesh Drug & Pharmaceuticals Ltd., Lucknow; Rajasthan Drugs & Pharmaceuticals Ltd. Jaipur and Orissa Drug & Chemicals Ltd., Bhubanswar.

HINDUSTAN ANTIBIOTICS LIMITED—was incorporated on 30th March, 1954 for the manufacture of antibiotics like penicillin, streptomycin, ampicillin, gentamycin etc.

BENGAL CHEMICALS & PHARMACEUTICALS LIMITED—was incorporated on 27th March, 1981 to take over the nationalised undertaking of Bengal Chemicals and Pharmaceuticals Limited. The company has from production units. It is making a wide range of chemicals, drugs and pharmaceuticals, cosmetics and home products.

BENGAL IMMUNITY LIMITED—was incorporated on 1st October, 1984 to take over the nationalised Bengal Immunity Company Limited. The company has two manufacturing units.

SMITH STANISTREET PHARMACEUTICALS LIMITED—was nationalised on 1st October, 1977. The company makes formulations only.

CHEMICALS, PESTICIDES AND ALLIED INDUSTRIES

The last few years have witnessed a rapid growth in the field of chemicals industry, both organic and inorganic. Heavy organic and inorganic chemicals provide the basic building blocks for the manufacture of several downstream products like drugs, dyestuffs, pesticides, plastics, paints, etc.

The chemical industry has made rapid strides in the last 2 decades and currently the chemical industry's share in the nation's gross industrial output is about 40% as compared to 8% in 1970-71. As against a general industrial growth rate of 9.3% in the organised sector, the chemical industry's growth rate is 12.8%. The country has become self-sufficient in almost all major heavy chemicals. The installed capacity of methanol has gone up more than three times in 1988-89 from the level of 1984-85 (44,500 tpa). Similarly, capacity of phenol has almost trebled from 21,600 tpa to 61,600 tpa in 1988-89. Soda ash capacity has also gone up during this period from 10,05,00 tpa to 14,59,000 tpa. The production of pesticides is steadily increasing and imports have come down progressively in the last 3 years. The availability of alcohol and molasses has increased considerably in the last 2 years with the result that export of 10 lakh tonnes of molasses and 1200 lakh litres of alcohol (equivalent to 5 lakh tonnes of molasses) has been allowed during the current financial year. In order to formulate a perspective plan for the chemical industry, Government has set up an Apex committee under the chairmanship of Secretary of this Department. The committee is preparing a perspective plan for the industry till 2000 A.D. The perspective plan would identify areas for future growth, modernisation and technology upgradation keeping in view the need to generate surpluses for export and better productivity.

Liberalised licensing policy has over the years encouraged setting up of medium scale units under the automatic registration procedure. The small scale units are being given adequate encouragement by reserving a number of chemicals for exclusive development in the small scale sector.

Chemical industry is highly technology oriented and a number of incentives have been given to the industry to promote R&D activities. The National Laboratories under the CSIR, particularly the NCL, the Regional Research Laboratories at Hyderabad, Jammu and Jorhat are also engaged in promoting R&D activities.

HINDUSTAN INSECTICIDES LIMITED—was incorporated in March 1954, has three units at Delhi, Udgogamandal and Rasayani. The company also has a subsidiary company. The company is engaged in the manufactures of DDT, BHC, malathion and endosulfan, four major pesticides used in the country. The authorised capital of the company is Rs. 35 crores.

HINDUSTAN ORGANIC CHEMICALS LIMITED—was incorporated on 12th December, 1960 with an authorised capital of Rs. 12 crores and with the main objective of manufacturing chemical intermediates required for drugs, dyestuffs, rubber chemicals and other vital chemicals. The authorised capital was increased to Rs. 70 crores. Today, this complex comprises 16 chemical plants manufacturing 26 different chemical intermediates based on sophisticated technologies.

Petrochemicals Industry

Petrochemicals can be broadly categorised as follows :—

- I. Plastics such as low density and high density polythylene, commonly known as LDPE & HDPE, polypropylene and polyvinyl chloride which are commonly known as PP & PVC.
- II. Synthetic Rubbers (such as styrene butadiene rubber and polybutadiene rubber, which are commonly known in the abbreviated form of SBR & PBR).
- III. Synthetic fibres (such as nylon, polyester and acrylic).
- IV. Intermediates (such as ethylene, propylene, benzene, DMT, caprolactum etc.) which in turn are used in the manufacture of various petrochemical items.

Petrochemicals are manufactured from petroleum feedstocks like naphtha and gas and also from alcohol and calcium carbide. At present naphtha is the dominant feedstock in our country. Natural gas is presently not being used for production of petrochemicals. However, major petrochemicals complex being set up in Maharashtra (in Nagothane) will be based on natural gas as its feedstock. The cyclic availability of alcohol combined with periodical changes in the levy of excise duty renders the alcohol route for petrochemicals undependable. Similarly, the use of calcium carbide for the manufacture of petrochemical products such as PVC is constrained by the fact that the route is energy intensive.

Production of basic petrochemicals in India made a modest beginning at a comparatively late stage during the 1960's. A rather small capacity naphtha cracker of 20,000 TPA ethylene capacity was set up in 1966 by Union Carbide. In 1968 some what larger capacity naphtha cracker of 60,000 tpa ethylene capacity was set up by National Organic Chemicals. Both the plants were set up in private sector in the Bombay area. Prior to that small quantities of petrochemicals (mainly plastic resins and intermediates) were being produced based on alcohol, coal tar intermediates, calcium carbide etc. as feed stock.

The major thrust in this field was made when IPCL's naphtha cracker of 1,30,000 tonnes/annum ethylene capacity was set up at Baroda in 1978. The present range of production of petrochemical items in India is quite large.

Projects proposed to be set up are :—

- (i) Haldia Petrochemicals Complex will be implemented by M/S Haldia Petrochemicals Limited, in joint sector with partnership of West Bengal Industrial Development Corporation to manufacture 1,00,000 tonnes of ethylene and other products. The estimated capital cost of the complex is Rs. 1400 crores.
- (ii) An aromatics complex at Madras for the manufacture of 1,50,000 tpa of PTA
- (iii) An aromatics complex at Saleempur in U.P.
- (iv) A cracker complex at Hazira in Gujrat to produce 3,20,000 tpa ethylene.

INDIAN PETROCHEMICALS CORPORATION LIMITED—near Vadodara was set up for producing various petrochemicals like polymers, chemicals, fibre intermediates.

PETROFILS CO-OPERATIVE CO. LIMITED (SOCIETY)—is a Joint Venture of Government of India and Weavers Cooperatives. It has a installed capacity of 1000 tpa of Polyester Filament Yarn (PFY).

CENTRAL INSTITUTE OF PLASTICS ENGINEERING & TECHNOLOGY

The Central Institute of Plastics Engineering & Technology (CIPET), Madras was set up in 1968 as a Society registered under the Societies Act. Its main objectives are training in different areas of plastic engineering e.g. plastics/mould technology, plastic mould design, plastics processing technology, tool engineering, testing plastics materials and evaluation of moulds, dies and products ; designed and development of moulds and dies for plastic processing industry ; providing facilities for establishing national standards and quality control of plastics and finished products in association with Bureau of Indian Standards ; and providing consultancy and advisory services to the plastics industry.

Bhopal Gas Leak Disaster

After the filing of the case by Government of India against Union Carbide Corporation (UCC) in the Court of the District Judge for claiming compensation for the victims of Bhopal Gas Tragedy, the Court had decided most of the interlocutory applications filed by both the parties. One of the important directions given by the Court to Union Carbide Corporation had been to deposit a sum of Rs. 350 crores as interim compensation for the gas victims. A Revision Petition in the High Court of Madhya Pradesh at Jabalpur was filed by the Union Carbide Corporation against this order. The High Court had reduced the quantum of interim compensation to Rs. 250 crores. Against this decision both UCC and the Government of India filed Special Leave Petitions in the Supreme Court. Union Carbide also filed an application in the Court of the District Judge, Bhopal, asking the Judge to recuse himself from hearing the case. The District Judge dismissed this application but on appeal the High Court ruled that the District Judge should recuse himself from the case. Against this decision the Union of India filed a Special leave Petition in the Supreme Court. The protracted and complex litigation has finally concluded with the landmark order of the Supreme Court directing UCC and UCIL to pay a total sum of US\$ 470 million in full settlement of all claims. This amount has since been paid. It should, therefore, be now possible to provide immediate and substantial relief to the victims of the disaster.

The Government of Madhya Pradesh has been taking all possible steps to provide relief and rehabilitation to the victims. The Central Government has State Government for this purpose.

About 5,80,000 claims for compensation have been registered with the State Government. A massive exercise has been undertaken by the Government of Madhya Pradesh for the medical documentation of the victims. A Commissioner for Welfare with skeleton staff has been appointed to process and categorise all the claims so that the amount that may be received in satisfaction of the claims is promptly disbursed.

FERTILIZERS

The production of fertilizers in India has assumed an important position. The most of them are nitrogenous fertilizers.

The production of nitrogen was estimated to 39 lakh tonnes in 1984-85. The capacity of nitrogenous fertilizers has increased from 85 thousand tonnes in 1951-52 to more than 55.60 lakh tonnes in 1984-85. The phosphatic fertilizer capacity has increased from 63 thousand tonnes in 1951-52 to more than 16 lakhs tonnes in 1984-85. The production of fertilizers has also gone up from a nominal 16 thousand tonnes of nitrogen and 11 thousand tonnes of P_2O_5 in 1951-52 to 39 lakh tonnes and 12.50 lakh tonnes respectively in 1984-85.

There are 38 large fertilizer units and 40 small units producing fertilizers.

Following are the fertilizer factories in India :

Public Sector : Sindri, Nangal, Rourkela FACT (Alwaye), Trombay, Neyveli, Gorakhpur, Namrup, Ramagundam, Talcher, Bhatinda, Panipat, Durgapur, Barauni, Haldia, Udyogmandal, Cochin and Madras.

Private Sector : Baroda, Vizag, Goa, Tuticorin, Mangalore, Bharuch, Kalol/Kandla, Phulpur, Ennore, Kota, Kanpur and Varanasi.

At present there are a few public sector undertakings dealing with manufacture of fertilizers under the administrative control of the concerned Union Ministry. There are Fertilizer Corporation of India (see Index), Hindustan Fertilizers Corporation Ltd., Rashtriya Chemicals and Fertilizers Ltd., National Fertilizers Ltd.

There are 9 large and 3 small fertilizer units producing nitrogenous and complex fertilizers and 3 small units producing single superphosphate in the private sector with a total capacity of 17.21 lakh tonnes of nitrogen and 5.70 lakh tonnes of P_2O_5 .

The Rs. 39.50 crore Trombay Fertilizer in Bombay went into production on October 15, 1965. It was designed to produce 90,000 tonnes of nitrogen and 45,000 tonnes of phosphate

in the form of 99,000 tonnes of urea and 333,000 tonnes of nitro-phosphate respectively per annum.

A Rs. 33- crore fertilizer factory at Gorakhpur was opened on April 20, 1968. The Gorakhpur Fertilizer Factory has an annual capacity of 80,000 tonnes of nitrogen, which in turn would produce about 1,79,000 tonnes of urea.

The Namrup unit went into commercial production from 1st January 1969.

Barauni project is designed to use naphthas feed stock and to produce 1,51,800 tonnes of nitrogen per year.

India's biggest fertilizer factory in the private sector has begun production at Visakhapatnam. This Rs. 48.4-crore fertilizer complex has been designed to produce annually 260,000 tonnes of concentrated ammonium phosphate and 16,500 tonnes of urea per year, for further processing as plant nutrients. The fertilizer complex contains five plants for production of ammonia, urea, phosphoric acid, sulphuric acid and complex fertilizer. Two American fertilizer firms have joined Indian investors to build this fertilizer complex.

International Bank of Reconstruction and Development had agreed in principle to give a loan \$ 18 million for the Kothagudem Fertilizer Project.

The foundation of the Durgapur Fertilizer Factory, the biggest fertilizer production unit so far planned in India, was laid on Jan 8, 1965. The factory which has come up on a 1,000-acre site in Durgapur will have a capacity to produce about 50,000 tonnes chemical fertilizers per annum-to say in terms of plant nutrients, 1,35,000 tonnes of nitrogen, 108,500 tonnes of potash. The total investment on the project is about 137 crores.

A giant fertilizer plant has been set up in Goa by the Birla group in collaboration with a well-known American firm. The plant which is naphthabased produces 4.4 lakh metric tonnes of urea per annum. The plant is proposed to be expanded later.

Another big fertilizer plant has been located at Mangalore. The plant will have a capacity to produce 132,000 tonnes of urea and 530,000 tonnes of complex fertilizers per year.

The di-ammonium phosphate project with Kuwaiti collaboration is estimated to cost Rs. 33.5 crores. The plant, which will be set up in Colaba district (near Bombay), when in full production, will produce per annum 5,00,000 tonnes of di-ammonium phosphates worth about Rs. 50 crores. Indian and American co-operatives are working together to build \$199 million (Rs. 89.25 crores) nitrogen fertilizer plant at Kandla, Gujarat. The co-operatives are being assisted in the project by the United States Agency for International Development (USAID) and private capital. Over 50 per cent of the financing will be from India. The remainder will be from the United States. USAID will help the project through an extended risk guarantee. The proposed plant will produce 910 tonnes of anhydrous ammonia (83 per cent nitrogen) per day. This amounts to more than 800,000 tonnes of finished fertilizer products a year.

A new project at Haldia (West Bengal) and expansion of the Gorakhpur Unit (U.P.) have been cleared by the Government. The Government has also approved in principle a coal-based project at Korba (Madhya Pradesh). Another project at Paradeep (Orissa) and the expansion of the Nangal project are under consideration.

National Fertilizers Ltd. has started preliminary work in respect of the first of these plants to be located at Bijaipur, Guna District, Madhya Pradesh. The largest single stream fuel oil-based plant was commissioned in Bharuch by Gujarat Narmada Valley Fertilizer Co. Ltd. and a gas-based nitrogenous plant was commissioned by Rashtriya Chemicals and Fertilizers Ltd. during 1982-83.

FERTILIZERS AND CHEMICALS TRAVANCORE LTD. (ALWAYE)—The company, in 1960 became a Govt. undertaking under State sector with the Govt. of Kerala holding majority shares. The Govt. of India have invested Rs. 3.50 crores in this company, thereby acquiring majority control, from July 1963. It has under it a running unit at Udyogomandal and another under construction at Cochin. Udyogomandal unit has a capacity of 70,000 tonnes of nitrogen and 35,000 tonnes P_2O_5 per annum. The Cochin Fertilizer project will have a capacity of 1,52,000 tonnes of nitrogen in the form of urea.

MADRAS FERTILIZERS LTD.—was completed and commissioned in November 1971.

In 1955, a Central Institute of Fertilizer Technology came up in Sindri utilising Russian assistance under U.N. auspices.

FISHERY

FIRST RESOURCES—India with a coastline of 7,500 kilometres along with numerous large, perennial rivers discharge their silt-laden waters in innumerable gulf, creeks, bays, oceanic islands; has a fishable area of about 110,000 sq. m. the inland fishery resources of India include extensive river systems, vast net work of irrigation canals, reservoirs, tanks, ponds, jheels, swamps, backish water lakes and extensive estuaries. The main sources of fish-supply in India are inland fisheries, sea fisheries, and estuarine and back water fisheries.

To 50 p.c. of the people in India specially of West Bengal, Maharastra, Orissa, Tamil Nadu and Kerala, fish is a staple food. Yet not even 2 oz of fish per head are available per day.

Fish and allied industries provide employment for more than a million fishermen. It is estimated that there are 500,000 fishermen owing about 85,000 boats, catamaranas and other crafts. The overall fish production in 1987-88 was an all time high at 31.35 lakh tonnes.

FISHING HARBOURS—The construction of a fishing harbour at Veraval and Mangrol in Gujarat are nearing completion. The construction of fishlanding jetty at Mangalore has been completed. Fishing harbour at Nagapattinam in Tamil Nadu, Kakinada and Nizampatnam in Andhra Pradesh, Porbandar in Gujarat and Vizhin Jam in Kerala have been initiated. The fishing harbours at Tadri in Karnataka and at Astrang in Orissa are under construction.

DIFFERENT KINDS OF FISHERIES

INLAND FISHERIES—Schemes relating to the development of inland fisheries aim at increasing production through surveys, introduction of fish culture technique, investigation of fish-seed resources and development of reservoir fisheries.

MARINE FISHING—Scheme for the improvement of marine fishing consists of mechanisation of fishing crafts, exploratory and experimental fishing to locate new grounds, improvements in fishing methods, increasing the supply of fishing requisites and provision of fish. Mechanisation of fishing craft and development of suitable facilities for the landing, preservation, transport and marketing designs of mechanised crafts for different coastal region were undertaken. There are at present about 10,762 mechanised boats for operation.

ESTUARINE AND BACKWATER FISHING—Chilka lake in Orissa, backwaters in Tamil Nadu, Cochin and Travancore, deltaic areas of Sundarban in West Bengal and Mahanadi river in Orissa are the principal sources of estuarine and backwater fishing. The estuaries of Mahanadi and Ganga, stretching from Puri to Hooghly near Calcutta are extensive fishing grounds, containing hilsas, pomfrets, prawns, katlas, catfishes etc.

FISH PRODUCTS—Besides articles of food, fish yields by products, such as FISH-OIL, FISHMEAL, FISH-MANURE, FISH-MAWS and SHARKFINS. The most important of them is Fish-oil, such as sardine oil and shark-liver oil, which are now produced on commercial basis in India. The oil is used in the manufacture of paints, soft soaps for softening hides, for tempering steel, for bleaching jute and after hydro-generation, in the preparation of edible fats. FISH-LIVER oil products vitamins A and B indispensable for wasting diseases. It is being manufactured by the Government of Maharashtra, Tamil Nadu and Kerala. THE GOVERNMENT SHARK-LIVER OIL FACTORY is situated at Calicut, Kerala. Indian fishes, such as salmon, jew-fishes, YEILD ISINGLASS; a valuable article for the clarification of wines. Bombay, the east coast of Tamil Nadu and the Sundarban in W. Bengal are the centres of trade of this commodity. Fish-scraps are converted into FISH-MEAL as additional protein food for poultry and livestock. Fish-refuse is dried as FISH MANURE.

FISH-CURING is also important supplementary trade. The chief methods of curing fish in India are sun-drying and salt curing by their dry or wetprocess.

DEVELOPMENT OF FISHERIES—An unique experiment was made at Neendakara in Quilon (Kerala). An INDO-NORWEGIAN DEEP-SEA FISHING PROJECT was started

in 1952 on the basis of tripartite agreement between U.N, Norway and India, the object being to render assistance to underdeveloped countries for the development of fisheries and to improve socio-economic conditions of fisherman. The administration of the Indo-Norwegian Project has been under the Kerala Government from April 1963. Its headquarters is now at Ernakulam. The Project will build two more fisheries stations, one each at Karwar in Karnataka and at Cannanore in Kerala.

RESEARCH AND TRAINING—in inland fisheries is carried out at the CENTRAL INLAND FISHERIES RESEARCH INSTITUTE, BARACKPORE (West Bengal) and in sea fisheries, at the CENTRAL MARINE FISHERIES RESEARCH INSTITUTE, MANDAPAM (Tamil Nadu). The DEEP-SEA FISHERIES STATION, Bombay aid the OFFSHORE STATION at Tuticorin, and Visakhapatnam, conduct exploratory surveys for charting grounds. Another 40 Offshore Station has been established at Bangalore. At the CENTRAL FISHERIES TECHNOLOGICAL RESEARCH STATIONS at Cochin and Ernakulam experiments are conducted on gear materials, gear designs fishery products. The 40 Central Institute of Fisheries Education was established in Bombay in 1961. It imparts practical knowledge on all aspects of fisheries, including administrative and extension method. A CENTRAL INSTITUTE OF FISHERIES CO-OPERATIVE was established at Ernakulam in 1963. Eight central fisheries extension units organise training course for different categories of personnel.

The Government of India have set up a CENTRAL BOARD OF FISHERIES for the integration and co-ordination of fisheries research and development activities in the country. The Board discussed at National level problems connected with fisheries research and development and recommended suitable measures for better co-ordination of the work between the Centre, States and fisheries organisation.

AQUARIA AND MUSEUMS—The main aquarium of India's TARAPOREVALA AQUARIUM at Marine Drive, Bombay. Attached to this aquarium is the MARINE BIOLOGICAL RESEARCH STATIONS. There are a museum and an aquarium in Madras, which preserve specimens of all important marine and fish-water fishes, many kinds of sharks, aquatic curios, etc. There is a small experimental aquarium of the ORISSA FISHERIES DEPARTMENT at Cuttack. A small museum exists in the CENTRAL FISHERIES RESEARCH LABORATORY, Lucknow.

PEARL FISHERY—One of the important development in industry is the revival of pearl-fishing by the Tamil Nadu Government. Pearl-fishing in the Gulf of Manner, of Tuticorin coast, is one of the oldest trades of peninsular India. There are two types of oysters, (a) window pane oysters for decorative purpose and (b) real pearl oysters. The window-pane oysters are found in the open sea off Coromandel coast, Madras coast and Cochin coast. Two-thirds of the catch is taken up as Government share and one-third distributed among the divers.

ANIMAL HUSBANDRY

India possesses more than one-fourth of world's total cattle population. It is estimated that the annual direct contribution from our livestock by labour is above over 1,000 crores of rupees and by manure another 1,000 crores.

Animal husbandry is a State subject, but under the Directive Principles of the Indian Constitution, the Centre has been assigned the role of organising it on a planned and scientific basis. The Majority of our cattle are of non-descriptive type. The lower standards of animal husbandry are clearly demonstrated by the poorer per capita consumption of milk in different parts of the country. For instance the per capita milk consumption in Madras is 2.7 ounces, Kerala 1.4 ounces, Karnataka 3.7 ounces, Assam 1.9 ounces, Orissa 1.8 ounces and West Bengal 2.6 ounces as against 14.75 ounces in Punjab, 8.2 ounces in Uttar Pradesh and 8.7 ounces in Rajasthan.

The animal husbandry work is shared by the INDIAN COUNCIL OF AGRICULTURAL RESEARCH, INDIAN VETERINARY RESEARCH INSTITUTE,

Barnagar and Mukteswar (U.P.), NATIONAL DAIRY RESEARCH INSTITUTE, Karnal (Punjab) and CATTLE BREEDING Station at Jabalpur.

DEVELOPMENT OF ANIMAL HUSBANDRY—The Schemes adopted by the Government for the improvement of animal husbandry in India are—

INTENSIVE CATTLE DEVELOPMENT PROGRAMME—has been set up in all States. The Programme envisaged setting up of a number of intensive cattle development project in the milkshed of large dairy project on the lines of the package programme for agricultural production. There are comprehensive projects and to attend all aspects of cattle development viz., controlled breeding, adequate feeding, effective disease control, management and marketing only supported by feed and fodder development and rural dairy extension activities in a planned and co-ordinated manner. The total number of this project in the country is 127. Under the Scheme, 109 Central semen collection centres, 105 regional artificial insemination centres, 1,152 stockmen centres have also been established in various States.

KEY VILLAGE SCHEME—This Scheme was initiated during the First Plan for increasing milk production and raising the drought efficiency of cattle in selected areas. Under the Scheme, a village is selected in an area of three or four villages, covering about 500 cows over three years of age. In this area, breeding is controlled to three or four bulls of superior quality especially maintained at the centre for breeding purposes. The approved bulls are removed and castrated. Artificial insemination is also adopted, for quick progress. The Government have also started cattle breeding farms to supply bulls. There are at present 529 key village blocks.

FEED AND FODDER DEVELOPMENT PROGRAMME—aims at encouraging the farmers to take up the production of fodder crops and grasses and has been in operation in all states and in 4 Union Territories. Fodder and Grazing Committees are in operation in 13 States and 2 Union Territories.

GAUSHALA DEVELOPMENT SCHEME—has been taken up with starting of Gaushalas. These institutions serve as a cattle breeding-cum-milk production Centres. There are at present 419 Gaushalas in the country.

GOSADAN SCHEME—aims at segregation of old uneconomic and unproductive cattle. Gosadans have been established in different parts of the country. There are now 79 gosadans in the country.

CHAMRALAYAS—Well-equipped chamralayas have been added to gosadans for economic and scientific utilization of hides and other end-products of the caracasses.

GOSHMVARDHANA—The Central Council of Gosamvardhana has been established to advise the Central and State Governments on the problem of improvement of cattle-wealth. This Council organises annual Gosamvardhan Week and All-Indian Milk yield Competition.

CENTRAL CATTLE BREEDING FARMS—Seven such Farms have been established in Suratgarh, Alamandhi, Dhamord, Chiplima, Koraput, Avadi, Andeshnagar and Hessarghata.

NOMADIC CATTLE BREEDER'S SCHEME—scheme for rehabilitating nomadic cattlebreeders has been started in four States—Andhra Pradesh, Rajasthan, Uttar Pradesh and Gujarat by providing with better bulls and veterinary aid, while in some places they are being settled on waste lands on co-operative basis.

STRAY AND WILD CATTLE CATCHING SCHEME—for the rounding up of stray and wild cattle, is in operation in Punjab, Uttar Pradesh, Jammu and Kashmir and Delhi.

IMPROVEMENT OF HIDES-FLAYING, CURRING AND CARACASS UTILISATION SCHEME—The Model Training-cum-production Centre in Lucknow, which was developed with assistance from the Netherlands Government and F.A.O. imparts training in hide-flaying, tanning and footwear and leather utilisation has been set up at Laserpalli in Andhra Pradesh.

ALL-INDIA CENTRAL STUD FARM—was started in Bangalore in 1955 as a part of an intensive scheme for the improvement and development of cattle. The farm consists of pedigree breeds from all parts of India as well as foreign breeds. The pedigree breeds consists of the Sindhi, Tharpakan, Gir, Murrah, Ongole, and Kangayman types and the Jersey from America. The semen of pedigree breeds is available to the pilot unit centres.

CENTRAL FROZEN SEMEN BANK—has been established in Hessarghata.

TWELVE FROZEN SEMENS STATIONS—have been set up in Punjab, Haryana, M.P., U.P., Karnataka, A.P., Bihar, Maharashtra, Tamil Nadu and two in Jammu and Kashmir.

NATIONAL LIVESTOCK COMMITTEE—The Committee was founded to spread the knowledge of principles of sound animal and poultry breeding among the breeders throughout the country by organising cattle and poultry shows. A large number of trophies and cash prizes are awarded to the winners at these shows. All-India Cattle Breeder's Conference is also organised at the All-India show.

ANIMAL WELFARE BOARD—For the promotion of animal welfare generally and for production against cruelty, this Board has been set up under Prevention of Cruelty to Animal Act, 1960. The Board imported a mobile animals clinic and a veterinary ambulance for providing veterinary aid.

GOVERNMENT LIVESTOCK FARM, HISSAR (HARYANA)—is an important organisation where animals are called and allotted to bonafide breeders.

CALF REARING SCHEME—This aims at the salvage of superior calves from high-yielding milk animals maintained at the milk colonies. Under this Scheme, the selected calves of 6 months of age and above are purchased from the cattle breeders and distributed free of cost to the bonafied cattle breeders, cooperative organisations etc.

VETERINARY RESEARCH—The demand for trained veterinary personnel increased considerably on the setting up of Community Development Blocks and also as a result of development schemes under the Five-year Plans. So the Government of India initiated measures in rendering financial assistance to the Government (1) for operative new veterinary colleges, (2) for expansion of training facilities at some existing colleges and (3) for starting double shifts at veterinary colleges.

THE INDIAN VETERINARY RESEARCH INSTITUTE—carries on research teachings manufacture of veterinary biological and diagnostic and advisory work. It also prepares doses of preventive vaccine.

POULTRY—Poultry includes those domesticated birds which reproduce freely and are of economic importance. They embrace chickens, turkeys, ducks, geese, guinea-fowls, pigeons, pea-fowls etc. The most important of them is chicken. The important poultry producing areas : Tamil Nadu (25 p.c.), West Bengal (12.6 p.c.), Assam (8.9 p.c.), Bombay (8.5 p.c.), and Madhya Pradesh (6 p.c.). Five **REGIONAL POULTRY** farms have been set up in Maharashtra, Orissa, Karnataka, Himachal Pradesh and Delhi. 4 out of the 5 Regional Poultry farms were being raised to 5,000 layers farms. There are at present 100 State Poultry Farms, 47 District Poultry Development Blocks and 60 Poultry Feed manufacturing Units in the country. Under a Centrally sponsored scheme, one Regional Duck Farm has started functioning in West Bengal. The Sponsored Duck Breeding Farms at Hessarghata is catering to the requirement of high production for distribution to various States. 12 marketing centres and 20 Duck Extension Centres have already been set up. One large Breeding Farm has started functioning near Gurgaon (Panjab) and another at Bombay both with foreign collaboration.

A pilot project for the manufacture of egg powder has been undertaken at the Central Food Technological Research Institute, Karnataka.

PIGGERY DEVELOPMENT—85 regional **PIG BREEDING STATION-CUM-BACON FACTORIES** are functioning at Aligarh (U.P.), Haringhata (W. Bengal), Gannavaram (A.P.) and Array in Maharashtra, etc. So far, 8 bacon factories, 1 pork processing plant, 52 breeding farms and 140 piggery development blocks have been set up in various States.

ANIMAL PRODUCTS—Besides animal products of milk and wool, the principle animal

products of India are blood, bones, ivory, tallow, and hides and skins. Bones are used as manure and for the manufacture of buttons, handles, toys, glue and a source of super-phosphates. The supply of horns, come from U.P., Punjab, Tamil Nadu and W. Bengal. Buttons, toys, manure, glue, gelatine etc. are made, from horns. IVORY is used for the manufacture of ivory goods, bones and teeth. Its supply comes from Assam, Western Ghats and Karnataka. Tallow is derived from the fat of beef, mutton and goats. Its printing uses are as adulterant, lubricant and illuminat. It is used in the manufacture of soaps and candles.

DAIRY FARMING

MILK PRODUCTION IN INDIA—Dairying, like agriculture, is one of the basic industries of India, and milk products to no less than Rs. 620 crores to the national dividend. The huge quantity of about 1,500,000 maunds of milk produced per day in the country is obtained from about 67,000,000 cows and buffaloes maintained in nearly 40,000,000 small fragmented holdings through the country.

There are in all 197 dairy plants comprising 98 liquid milk plants, 67 rural centres/pilot milk schemes, 32 milk products factories and 3 creameries in the country. In addition, 43 other milk schemes are in different stages of implementation. Some of the States have introduced regulatory measures banning the manufacturing of milk products to conserve milk for liquid consumption.

The 4 milk product factories at Anand, Amritsar, Mehasana and Rajkot have made satisfactory progress. The average daily production of milk powder including infant milk food by these plants amount to about 22 tonnes a day. The 3 creameries at Aligarh, Barauni and Junagarh together with the plants at Anand, Amritsar, Calcutta and Delhi manufacture on an average 2 tonnes of table butter per day. Three milk powder factories, one each at Miraj, Moradabad and Vijaywada are being set up. The erection work of dairy equipment is being completed at Vijaywada; steps for similar work have been set up at Miraj and Moradabad.

Although India has the largest cattle population of the world, it is woefully short in milk and its products. As against the daily minimum requirement of 284 grams of milk products necessary per head for a balance diet, the availability is only 119 grams, which is less than half or what is required, according to official figure available.

POOR YIELD—The average annual yield of milk per cow in India is 413 lb. which is about the lowest in the world, as compared to 8,000 lb. in the Netherlands, 7,000 lb. in Australia, 6,000 lb. in Sweden and over 5,000 in the U.S.A.

RESEARCH ASSOCIATION—THE INDIAN DAIRY SCIENCE ASSOCIATION was formed in 1948 with the object of advancing the cause of the dairy science in India.

THE INDIAN DAIRY COUNCIL was inaugurated in 1948 with the object of promoting and safeguarding the interest of the dairy industry in India. It is a common platform on which representatives of various interests of the milk industry, such as producers, consumers, traders and technicians, could meet together for developing it on sound and economic footing.

TRAINING—Dairy training is being provided in the NATIONAL DAIRY RESEARCH INSTITUTE, Kernal Southern Station, Bangalore, AGRICULTURAL INSTITUTE, Anand (Gujarat), DAIRY TECHNICAL INSTITUTE, Array (Maharashtra), and ALLAHABAD AGRICULTURAL INSTITUTE. Another Institute has been set up at Haringhata (West Bengal).

The Government of India have constitute a NATIONAL DAIRY DEVELOPMENT BOARD to advise them on technical matters relating to dairy development.

FOREIGN AID—The following aids have been received : (1) Two milk products of factories are being set up at Anand and Mehasana with the assistance of Denmark ; (2) New Zealand is to build a milk plant at Indore under Colombo Plan ; (3) Australia is aiding for a milk bar for setting dairy plants at Madurai and Kanpur ; (4) The construction work of composite milk plants at Vijaywada with UNICEF assistance and at Miraj under the Danish Credit Programme are complete.

GHEE PRODUCTION IN INDIA—The annual production of ghee in India is estimated at one crore and fifteen lakh maunds. In order of importance, the main ghee-producing areas are Punjab, U.P., Tamil Nadu and Bihar, which accounts for 15.7, 13.8 and 5.4 p.c. of the total production respectively. Thus three-fifths of the ghee production is concentrated in northern and western India and the remaining two-fifth is scattered in the rest of the country.

The GHEE adulteration by mixing Vanaspati (hydrogenated oil) has become so widespread that Government of India had put the matter in the hands of a GHEE ADULTERATION COMMITTEE, which has recommended that every lot of Vanaspati produced in a factory should be accompanied by a certificate that it gives Baudouin test that the Vanaspati should be coloured ; and that the Vanaspati should be fortified by synthetic vitamin 'A' so that its nutritive value be increased.

FORESTS

The total surface of India is 362.8 million hectares, out of which forests cover 75.3 million hectares or 23.1 per cent. Agriculture occupies 158.40 million hectares (48.5 per cent), potentially produced barren land is 42.30 million hectares (12.9 per cent) and the remaining 50.80 million hectares (15.5 per cent) are not available for agriculture or forestry. Out of 75.3 million hectares of forested area, soft-woods (coniferous forests) occupy 4.6 million hectares (6.1 per cent) and hard-woods (broad-leaved forests) cover 70.7 million hectares (93.9 per cent). The soft-wooded forests are mostly confined to the Himalayas and the chiefly composed of conifers such as *ABIES PINDROW* AND *A. SPECTABILIS* (FIRS) *CEDURS DEODATA* (DEODAR), *PICCA SMITHIANA* AND *P. SPINULOSA* (SPRUCES), *PINUS KHASYA* (KHASI PINE), *P. ROXBURGHII* (CHIR PINE) AND *P. WALLICHIANA* (BLUE PINE). These forests are distributed in the mountainous areas of Jammu and Kashmir, Uttar Pradesh, Himachal Pradesh, Assam, W. Bengal, Arunachal Pradesh and Manipur. The hard-wooded forests are scattered throughout India are occupied by some of the best timber species of the world such as *TECTONA GRANDIS* (teak, which occupies 9 million hectares and *Shorea robusta* (Sal, which covers an area of 9.7 million hectares). The rest of 51.9 million hectares of hardwooded forests are dominated by less important timber yielding species like *DALBERGIA LATIFOLIA* (rosewood), *D. SISSO* (sissoo), *PTEROCARPUS DALBERGIOIDES* (Padauk), *DIPTEROCARPUS* SPP., *LARGESTROEMIA LANCEOLATA* (benteak), *TERMINALIA TOMENTOSA* (Indian laurel), *SANTALUM ALBUM* (sandal wood) etc. Man-made forests cover 1.5 per cent of the total area under forests in India. The growing stock in forests is roughly 2.200 million cubic metres in terms of industrial wood. Of the 2.200 million cubic metres of total growing stock, hardwoods constitute 1,900 million cubic metres (86 per cent of total) and soft-woods comprise 300 million cubic metres (14 per cent of total).

It is unique that in India 96 per cent of the forests are State-owned and managed by various State Departments. The rest is owned by private individuals and corporate bodies. 44.8 per cent of the forests are reserves, protected forests constitute 29.2 per cent and the rest 26.0 per cent is covered by unclassified forests which are laden with rights of the people to cut any tree they like. Out of 75 million hectares of forests, 10 million hectares (13.3 per cent) are managed as production forests which are utilised for regulation of stream flow, prevention of floods and soil erosion, stabilisation of shifting sands, protection of catchment areas, etc. The remaining 65.3 million hectares (86.7 per cent) are maintained as production forests which include both merchantable (59.2 million hectares) and non-merchantable (6.1 million hectares) trees.

The value of the total volume of standing wood is roughly Rs.220.00 million. The forests sector contributes a low 1.57 per cent of India's gross national products, and employs three million persons. Forests contribute 0.7 per cent to the national economy. The per capita forests in the country is only 0.15 hectares. India, with over 15 per cent of the world's population, has only 18 per cent of the world's forest.

TYPES OF INDIAN FORESTS

The forests of India are scattered over the entire country from the Kashmir Himalayas in the north to Cape Comorin in the south, Saurashtra in the west and Assam in the east. According to the world classification of forests, Indian forests come under the categories of monsoon and dry deciduous thorn bush and savanna. The forests of Indian are broadly classified into following climatic types.

TROPICAL WET EVERGREEN FORESTS : This is a lofty, very dense, multitiered forest with mesophytic evergreens of 45 m. or more tall and numerous epiphytes and woody lianes. The characteristic species are *MESUA FERREA*, *DYSOXYLUM MALABARICUM*, *CALOPHYLLUM ELATUM*, *PALAQIUM ELLIPTICUM*, *HOPEA PARVIFLORA*, *DIPTEROCARPUS TURBINATUS*, *ARTOCARPUS CHAPLASHA*, *MELOCUNNA BAMBUSOIDES*, etc. These forests are confined to the western face of the Western Ghat, and to a strip running south-west from Assam through Cachar and Andamans.

TROPICAL SEMI-EVERGREEN, FOREST : This is a closed high forest with both deciduous species and evergreens as dominants, abundant epiphytes and lesser number of bamboos. The dominant species are *ARTOCARPUS HIRSUTA*, *BOMBAX*, *CEIBA TREWIA NUDIFLORA*, *LEGESTROEMIA LANCEOLATA*, *PTEROCARPUS MARSUPIUM*, *XYLIA XYLOCARPA*, *HOLOPTOLEA INTEGRIFOLIA*, *DYSOXYLUM MALABARICUM*, *CASTANOPSIS INDICA*, *MICHELIA CHAMPACA*, *MAGNIFERA INDICA*, etc. These forests are distributed in the West Coast, Assam, lower slopes of Eastern Himalayas, Orissa and Andamans.

TROPICAL MOIST DECIDUOUS FOREST : This is characterised by deciduous species as dominants, which may reach 40 m. or more high and evergreens as dominants which constitute lower stories. Shrubby undergrowth with bamboo and canes is well represented. Some of the conspicuous elements are *PTEROCARPUS DALBERGIOIDES*, *ALBIZIA*, *LEBBEK*, *CHICKRASSIA TABULARIS*, *TECTONA GRANDIS*, *TERMINALIA TOMENTOSA*, *DALBERGIA LATIFOLIA*, *DELLENIA PENTAGYNA*, *CLEISTANTHUS COILINUS*, *SHOREA ROBUSTA*, *ADINA CORDIFOLIA*, *ANOGEISSUS LATIFOLIA*, *KYDIA CALYCINA*, *DENDROCALAMUS STRICTUS*, etc. These forests are found in Andamans moist parts of Uttar Pradesh, Madhya Pradesh, Maharashtra, Karnataka, Tamil Nadu and Kerala.

TROPICAL DRY DECIDUOUS FORESTS : This is composed of upper closed canopy with deciduous species which grow to a height of 20 m. shrubby undergrowth and grassy ground cover. Epiphytes and ferns are inconspicuous. Climbers are rather few. Some of the commonest species are *TECTONA GRANDIS*, *ANOGEISSUS LATIFOLIA*, *SANTALUM ALBUM*, *DIOSPYROS TOMENTOSA*, *BUTEA MONOSPERMA*, *CASSIA FISTULA*, *AEG LEMARMELOS*, *PTEROCARPUS SANTALINUS*, *HARDWICKIA BINATA*, *GARDENIA LATIFOLIA* etc. These forests are scattered over an irregular wide strip running north-south a little distance away from the foot of the Himalayas to Cape Comorin.

TROPICAL THORN FOREST : This is an open, low xerophytic forest with thorny trees and shrub as dominants. These plants exhibit a great variety of forms. The dominant species are *ACACIA CATECHU*, *A LEUTOPHOLEA*, *A SENEGAL*, *BUTEA MONOSPERMA*, *PROSOPIS SPICIGERA*, *CALOTROPIS GIGANTEA* etc. These forests occur in South Punjab, Haryana, Rajasthan, Upper Gangetic plains, Deccan Plateau and the lower Peninsular India.

TROPICAL DRY EVERGREEN FOREST : This is a low forest with coriaceous-leaved evergreen trees of 1 m. high and with a few or no bamboos and grasses. The characteristic species are *MANILAKARA HEXANDRA*, *CANTHIUM DICOCCUM*, *ZIZYPHUS GLABERRIMA*, *STRYCHNOS NUXVOMICA*, *CARISSA CARANDAS*, *FLACOURTIA INDICA*, etc. These forests are restricted to a small areas of each coast.

SUB-TROPICAL BROAD-LEAVE HILL FORESTS : This is luxuriant forest with evergreens as dominants. The conspicuous are *Schima Wallichii*, *Phoebe lanceolata*,

Castanopsis indica, *Machilus champaca* etc. These forests are localised on the slopes of the Himalayas in Bengal and Assam and hilly areas of Nilgiri and Mahabaleshwar.

SUB-TROPICAL PINE FOREST : This is a pure forest of pines with a shrubby undergrowth. These characteristic species are *PINUS ROXBURGHII*, *P. KHASIA*, *QUERCUS INCANA* AND *RHODODENDRON*. These forests are confined to the Himalayas between 100 m. and 1800 m.

SUB-TROPICAL DRY EVERGREEN FOREST : This is a shrub forest with small, stunted evergreen trees and shrubs. The prominent species are *OLEA CUSPIDATA*, *ACACIA MODESTA*, *PISTACIA* etc. These forests are confined to Bhabar tracts and Siwaliks or Western Himalayas.

MONTANE WET MEMPERATE FOREST : This is a closed evergreen forest with coiraceous-leaved trees which grow to a height of 6m. Ferns, epiphytes and climbers are common. Some of the prominent species are *SCHIMA WALLICHII*, *BETULA UTILIS*, *CASTANOPSIS INDICA*, *CINNAMOMUM LITSEA*, *MACHILUS*, etc. These forests are confined to Western Ghats from 150 m. upwards and to the Eastern Himalayas between 1800-3000 m.

HIMALAYAN MOST TEMPERATE FOREST : This is a coniferous forest which reaches to a height of 30 to 50 m. with an evergreen underwood. Ferns and Mosses are abundant. The commonest species are *ABIES PINDROW*, *PICEASMITHIANA*, *CEDRUS DEODARA*, *TAXUS BACCATA*, *BETULA UTILIS*, *QUERCUS* etc. These forests are found all along the Himalayas between 1500 to 3000 m.

HIMALAYAN DRY TEMPERATE FOREST : This is a predominantly coniferous forest with xerophytic shrubs and a few epiphytes and climbers. The characteristic elements are *CEDRUS DEODARA*, *FRAXINUS XANTHOXYLOIDES*, *PINUS GERARDIANA*, etc. These forests are limited to the inner ranges of Himalayas where the south-west monsoon is feeble and the precipitation is in the form of snow.

SUB-ALPINE FOREST : This is an alpine woodland with conifers reaching up to 30 m. high and hard-woods growing up to 10 m. tall. These trees are mostly small and crooked. The commonest species are *Abies Pindrow*, *Pinus Willichiana*, *PICEA SMITHIANA*, *RHODODENDRON* etc. These forests occur below the alpine shrub and grasslands in the Himalayas.

MOIST ALPINE SCRUB : This is a low evergreen forest of *Rhododendrons* and *Betula*, with alpine scrubs and herbs. The forests are found above 3,000 m. in the Himalayas.

DRY ALPINE SCRUB : This is a scrub forest of XEROPHYTIC dwarf shrubs. The characteristic species are *JUNIPER* and *LONICEA*. These forests are confined to the Himalayas above 3500 m.

LITTORIAL AND SWAMP FOREST : This is mostly a mangrove forest. The characteristic species are *HERITIERA MINOR*, *RHIZOPHORA*, *BRUGUIERS SONNERATIA*, *AVICENNIA*, *NIPA*, etc. These forests are found all along the coast and in the deltas of large rivers.

ADMINISTRATIVE SET-UP—Under the Constitution, the jurisdiction over forests vests in the States. The revenue from these is derived from the sale of timber, fuel, bamboo, fodder grass and other minor products, such as lac, tanning materials, gum, resins, medicinal herbs, etc. It also include fees for grazing and the proceeds of the sale of the confiscated drift and wild wood. The forest Department is treated as commercial department.

The forest administration of the Government of India is carried on by the **DEPARTMENT OF AGRICULTURE**. The Inspector-General of Forests is the technical adviser to the Government of India on forest matters. Forests are, however, a State subject. The States are divided into one or more Forests Circles each in the charge of a Conservator of Forests : while in those States where three or more Forest Circles exist, there is also a Chief Conservator who is the head of the Department of his State. The Circles are divided into a number of Forests Divisions, in the charge of the members of the Superior Forests Service. Each Division contains a number of Ranges, under Forest Rangers of Deputy-Rangers. Heavy Division are also sometimes divided into Sub-divisions. The ranges are further sub-divided into a number of rounds and beats.

FOREST IMPROVEMENTS—The Government schemes include, among other developments of farm forestry, economic plantations, rehabilitation of degraded forests, improvement of forest communication, development of forest research, nature conservancy schemes and forest protection measures surveys etc. The main schemes are as follows—

To make people aware of the utility and need of tree-planting **VANAMAHOTSAVA**—the annual festival of planting trees was started in 1950. Vanamahotsava week is celebrated by planting sappling of common plants, such a **BABUL**, **PEEPUL**, **MANGO**, **NEEM** AND **BAMBOO**.

THE CENTRAL BOARD FOR FOREST UTILISATION was set up in 1939. It deals with various issues, relating to forest research programmes, scientific exploitation of forest resources, etc. **THE CENTRAL BOARD OF FORESTRY** was constituted in 1950, for the purpose of evolving all-India policy to increase the area under forests. Its various functions are (a) maintenance of adequate standards for the training officers ; (b) co-ordination of forest researches conducted in Central and State institutes ; (c) promotion of legislation necessary for the management of private forest ; (d) adoption of conservation measures affecting forest resources and soil. **SOIL CONSERVATION RESEARCH DEMONSTRATION AND TRAINING CENTRES** are maintained by the **CENTRAL SOIL CONSERVATION BOARD**. **THE DESERT AFFORESTAION RESEARCH STATION, JODHPUR** carries on research activities on forestry, agrostology and agronomy. A Pasture Development Scheme for the reclamation and control of Thar Desert has been launched in 9 districts of Rajasthan. An integrated **ALL-INDIA SOIL AND LAND USE SURVEY SCHEME** is being executed by the **CENTRAL SOIL CONSERVATION BOARD**, with 4 zonal centres at Delhi, Nagpur, Bangalore and Haringhata (W. Bengal). **THE CENTRAL BOARD OF RATIONAL ALLOCATION OF TIMBER** is working to smooth differences regarding the supply and acceptance of timber.

On the recommendation of the capital Board of Forestry, a **CENTRAL FORESTRY COMMISSION** has been set up to study the implementation of the National Forest Policy by the State Government and Union Territories and make suggestions for improvement wherever necessary.

CLASSIFICATION OF FORESTS—Forests in India are classified according to-(a) Ownership, (b) Legal Status and (c) Composition. From the ownership point of view, the forest area is divided into (i) States, (ii) Communal (iii) Private.

From the administrative point of view, forests have been clasified into **RESERVED**, **PROTECTED** AND **UNCLASSIFIED**. The first category is reserved from Government use and no entry is allowed to any member of the public. The protected forests are under the control of the Department, but contracts for their exploitation are given and the public are allowed to make use of them within the terms of contracts. The unclassified forests consists of shrubs and tree in villages. They are not under the control of the Department. From the point of the outturn, forests are classified into **MERCHANTABLE** AND **INACCESSIBLE (UNPROFITABLE)**.

SOIL CONSERVATION—**THE CENTRAL SOIL CONSERVATION BOARD** has been functioning from 1953 for systematic soil conservation work. It undertakes soil analysis and combats soil erosion. It is responsible for organising, co-ordinating and initiating research in oil conservation work. The Board is running 9 research centres located at Dehra Dun., Ootacamund, Vasad, Kotah, Jodhpur, Chandigarh, Agra, Bellary and Chatra (U.P.). Of these, the first four first four are also training and demonstration centres.

FOREST EDUCATION AND RESEARCH—The scientific forests management in India owes its inception to Dr. Brandis, a professor of the University of Bonn (F.R.G.), who was engaged by the Government of India in 1956. Later in 1964, he was appointed first Inspector General of Forests in India. It was the result of his initiative that Departments were organised throughout India.

The nucleus of forests research and education in India is traceable to a forest school, started in 1878 in Dehra Dun under the auspices of the Survey of India.

The research and training activities on forestry and forest products are carried on at the FOREST RESEARCH INSTITUTE and colleges at Dehra Dun and the subordinate units at Bangalore and Coimbatore.

There are CENTRAL ARID ZONE RESEARCH INSTITUTE, Jodhpur and 9 regional research centres for intensified research and training activities in soil and water conservation.

A well-equipped FOREST MUSEUM has been opened in the Forest Training School, Vaigai Dam, Tamil Nadu.

WILD LIFE

INDIA'S RICHNESS IN WILD LIFE—India has a rich and varied fauna comprising fish, bird and mammal. The diversity which manifests itself is due to variations in rainfall, temperature and climate. With all types of forests, India has practically all types of birds and animals. More than 500 different species of mammals are found in India. The Indian bison is the largest of the existing bovines and the Indian rhinoceros is the biggest of all rhinoceros now inhabiting the world. The Indian elephant is much more handsome compared with its African cousin. The deer family is still richer and some of the most beautiful species, e.g., chital, black-buck, etc. are found in India. Chital is considered the most beautiful of all species of deer. Among the reptiles, the most dreaded species like cobra, karait, viper, etc. are all present.

PHYSICAL REGIONS OF ANIMALS—For the purpose of wild life in India the country can be divided into three broad physical regions—(1) HIMALAYAS, (2) INDO-GANGETIC PLAIN and (3) DECCAN.

HIMALAYAS—occupy the region between the gorges of the Indus and Brahmaputra covering length of about 1,500 miles. The Himalayas can again be divided into three regions—Western Himalayas, Central Himalayas and Eastern Himalayas.

WESTERN HIMALAYAS—supports rich and varied life, such as markhor, ibex, wild yak, bharal, Tibetan antelope, brown and black bear, tahr, Kashmir stag or hangul, barking deer, snow leopard, serow, goral, life persists in this region, ibex and markhor disappeared and brown bear occur nearer the snow-line about 10,000 ft. on the Tibetan border. In Ladakh, in particular, one comes up against ammon, Tibetan antelope, wild yak, bharal, ibex and Tibetan gazelle.

CENTRAL HIMALAYAS—While most of the Western Himalayas wild life persists in this region, ibex and markhor disappeared and brown bear are seldom met with to the east of the Ganges. Panther is plentiful. The main sports of the Central Himalayas are Janunsar-Bowar and Tehri-Garhwal and Kumaun.

EASTERN HIMALAYAS—Both panther and tiger are common along the foothills. Occasionally, the great one-horned rhinoceros is also met with. At the foot of the Himalayas we have tiger, panther, sambar, bear, barking deer, elephant, buffalo, bison and rhinoceros (Assam and W. Bengal), chital deer, swamp deer and four-horned antelope. In CENTRAL PLAINS we have blackbuck, nilgai, pig porcupine. In the Aravallis and southern highlands, we have tiger, panther, sambar and barking deer, chital deer, and sloth bear.

DECCAN—The Deccan plateau is buttressed in the north by the Vindhya, Satpuras and Kaimurs with their typical flat tops. Thus three distinct regions may be recognised in the south—(1) West Coast comprising the Western Ghats, the Nilgiris, Annamalais, Cardamom hills and the Malabar coast; (2) East Coast including the Karnatic Eastern Ghats and the bulk of the plateau below the Godavari; (3) Central plateau above the Godavari where the Western Ghats are low enough to let the monsoon pass through. These high regions have gazelle, antelope, hyena, wolf, hare, rodents, bison, sambar, sloth bear, wild dog, swamp deer, buffalo, elephant, nilgai, etc.

SPECIALITIES OF WILD LIFE—Much of the wild life of Indian sanctuaries is peculiar to India and is not found in other parts of the world. SWAMP DEER is found only in India, the four-horned ANTELOPE and NILGAL are also found in India. Spotted CHITAL, perhaps

the most beautiful of all deer, are seen in India. BLACK BUCK is not found elsewhere than in India and Pakistan. One-horned rhinoceros cannot be found elsewhere in the world.

ADMINISTRATION—under the Indian Constitution, wild life is a State subject and has no Central responsibilities. So the sanctuaries are mostly under the control of the Forest Department of the respective States. The Forest Department of nearly all States are advised by the Wild life Department. In some States, a few national parks have been constituted. While in others, such places are known as wild life sanctuaries.

BIRD PROTECTION NATIONAL COMMITTEE FOR PRESERVATION was formed in India in 1952 for the protection of some of the species of birds, which are now in danger of extinction. There are in India about 1,500 main species of wild birds. These are again sub-divided into several smaller subspecies. An important factor contributing to the extinction of certain species was the indiscriminate killing of rare birds for their feathers.

VANISHING ANIMALS—THE INDIAN BOARD OF WILD LIFE has listed 36 animals which need protection—lion, wild ass, pangolin, brown antler deer, swamp deer, musk deer, urial, four horned antelope, clouded leopard, Nilgiri stag, lesser panda, Kashmir stag, wild buffalo, rhinoceros, Nilgiri langur, golden langur, gazelle, markhor, spotted langur, pigmy hog, black-buck, snow leopard, golden cat, marble cat, hunting leopard or cheetah, dugong, great Indian bustard, Jerdon's courser, mountain quail, pink-headed buck, white winged wood duck, turgopan, crocodile, leather turtle, water lizard and python.

PROJECT TIGER—The alarming decline in the number of tigers led to the launching of Project Tiger in 1973-74. Tiger Reserves cover a total area of 15, 800 sq. kms.

WILDLIFE INSTITUTE OF INDIA—to cater to the training and research need in the field of wildlife conservation, the wildlife Institute of India was set up in May, 1982, as a centrally sponsored scheme with an outlay of Rs. 100 lakhs for the Sixth Plan. The Institute will also receive financial assistance from FAO/UNDP.

NATIONAL PARKS AND SANCTUARIES

BANDIPUR SANCTUARY—was once a game-preserve of the Maharaja of Mysore and is 50 miles from Mysore city on the road to Ootacamund. The nearest airport is Bangalore. The place is noted for its fine herds of GAUR (Indian bison) and CHITAL or spotted deer, other wild life includes wild elephant, bison, SAMBAR, barking deer, common langur, bonnet, macaque, pig, tiger, panther, leopard and sloth-bear. Among the birds peafowl, grey junglefowl are famous.

CHANDRAPRABHA SANCTUARY—is in Uttar Pradesh and is regarded as the alternative home of lions. Three lions from the Gir forest were released here in 1957. The sanctuary has NILGAI and wild pig. Indian gazelle, SAMBAR, chital and sloth-bear are also found. Among the birds, there are peafowl, grey partridge, quail, green pigeon, besides many others. The sanctuary is situated at the eastern end of the Vindhya range and 43 miles from Varanasi. It covers an area of 39 sq. miles.

CORBETT NATIONAL PARK—was established in 1953 and was then known Hailey National Park. It was renamed the Corbett National Park in 1957 in honour of the famous hunter Jim Corbett. Situated at the foothills of the Himalayas in DUN COUNTRY, it has fine forests. The park is the home of tigers. In addition to tigers, the park has leopards, hyaenas, jackals and wild dogs. There are also a number of wild elephant SAMBAR, CHITAL, hog deer, barking deer, etc. Birds of many species can be seen. This part is 125 miles in extent and is situated 180 miles north-east of Delhi. The railheads are Ramanagar and Haldwani.

DACHIGAM SANCTUARY—is the old game preserve of the former rules of Kashmir and is situated in Kashmir at an altitude of 6,000 - 12,000 feet above sea level, 13 miles from Srinagar. It is noted for hangul or Kashmir stag, Himalayan black bear and wild pig are also found here. Numerous other birds are also to be seen here.

GIR FOREST—occupies about 500 sq. miles of area in Gujarat and is the last stronghold of Indian lions. It is also 38 miles from Junagadh in Gujarat.

HAZARIBAGH NATIONAL PARK—is 75 sq. miles in area and lies in the main Patna-Ranchi Road, 11 miles from Hazaribagh Town. The nearest railway station is Kodarma. Most of the animals and birds indigenous to India are to be found here.

JALDAPARA SANCTUARY—was constituted in 1941 for the protection of Indian rhinos and consists of reverian forest along the river Torsa in North Bengal, not far south of the Bhutan border. In addition to rhinos, there are sambar, swamp, deer, hog deer, barking deer and wild pig. The 36 sq. miles sanctuary lies just south of the railway line which connects North Bengal and Assam with the rest of India. The nearest railway station is Hashimara.

KANHA NATIONAL PARK—is undoubtedly one of the best places for Indian wild life. Probably nowhere else in India can so many heads of animals be seen out in the open, at certain times of the year. The Indian swamp deer or barasingha is the stately animal for which Kanha is famous. The black buck and fine herds of Chital can be seen here. Peafowl and jungle fowl are among the 90 species of birds found here. The park is situated on the central highlands of India and is about 180 miles from Jabalpur. The nearest railhead is Chiraidongri (27 miles).

KAZIRANGA SANCTUARY—in Assam, is now the main centre of the great Indian one-horned rhinos. Kaziranga occupies about 166 sq. miles on the southern bank of the Brahmaputra. There are two airports—one at Guwahati and the other at Jorhat from where the place can be reached. The sanctuary also contains wild buffalo, SAMBAR, swamp deer, hog deer, pig and wild elephant. Numerous water fowls are found in jheels (lakes) and marshy lands.

KEOLADEO GHANA SANCTUARY—This sanctuary used to be the far-famed duck shooting preserve of the rulers of the former princely State of Bharatpur. Among the bird sanctuaries in India, it is one of the best breeding places for waterbirds. Prominent among the birds inhabiting this sanctuary are open-bill stork, egret, darter or snake-birds, white ibis spoonbill and grey heron. The sanctuary is situated about 100 miles south of the Delhi. The railway station is Bharatpur.

MANAS SANCTUARY—in Assam lies at the foot of Himalayas where the river Manas flows through a magnificent gorge. It occupies 105 sq. miles in the extreme north-west of North Kamrup district in Assam near the Bhutan border. The distance by road Guwahati is about 95 miles. The nearest railway station is Barpeta Road. There is an abundance of wild animal and birds in this sanctuary. It has the best herds of wild buffaloes in India. Fine mahseer and bhooker fishing is also to be had.

MOTICHUR SANCTUARY—Adjacent to Rajaji sanctuary is the sanctuary which abounds in elephants, SAMBARs, etc.

MADUMALAI SANCTUARY—in Tamil Nadu adjacent to Bandipur Sanctuary of Karnataka. It extends over 114 sq. miles at the foot of the Nilgiri hills and lies on the main road from Ootacamund to Mysore, 42 miles from Ootacamund. The main animals seen here are elephant, gaur (Indian bison), sambar, chital, barking deer, mouse-deer, four-horned antelope, pig, tiger, leopard, sloth-bear, wild dog, common langur, Malabar squirrel, hare and porcupine. Birds include Malabar grey hornbill, grey jungle-fowl and partridge.

PERIYAR SANCTUARY—consists of an artificially created lake of about 10 sq. miles, the whole sanctuary is about 300 sq. miles. It is situated on the Kerala side of the Kerala-Karnataka boundary and is approached by the main Cochin-Madurai road. The animal most seen here is wild elephants which are supposed to be in hundreds. Then there is gaur (Indian bison), sambar, barking deer and pig. Occasionally tiger, leopard and sloth-bear are also seen here. Waterbirds are fairly represented here and other birds include hornbills.

RAJAJI SANCTUARY—comprises the area of Siwalik hills which was the favourite hunting grounds of the Mughal emperors and later the Viceroy of India.

RANGANATHITTO BIRDS SANCTUARY—in Srirangapatnam in Mysore, is one of the three bird sanctuaries of India on the Kaveri river and occupies 1.66 sq. miles and is situated 9 miles from Mysore city. Openbill stork, white ibis, night heron, Indian darter, cormorant and cattle egret can be seen here.

SHIVAPURI NATIONAL PARK—is situated in Madhya Pradesh. The State Government converted this place into a national park in 1956. Since then the wild life here has been increasing steadily. Indian gazelle or chinkara is found in this park in good numbers besides the sambar, chital, nilgiri, wild pig, sloth bear, hyaena etc. Tiger, leopard are also seen here. It is situated on the main Agra-Bombay Road, 72 miles south of Gwalior, occupying 61 sq. miles.

VEDANTHAGAL BIRD SANCTUARY—is a lake situated in the district of Chingleput in Tamil Nadu, occupying about 74 acres in area and is 54 miles south of Madras city. It is a famous breeding place for birds. The birds that breed here are spoonbill, open-bill stork, grey heron, Indian darter, cormorant, egret, white ibis and night heron.

RAILWAYS

RAILWAYS IN INDIA—First opened between Bombay and Kalyan in 1853, India has now an extensive railway net-work, reaching all major cities. The Indian railways system with a route kilometrage of 61,850.27 is the largest in Asia. Total investment being Rs. 81.643 crores as on 31 March 1984. The Indian Railways are divided into 9 zones. There are 7,093 stations. The Indian Railways make up the second largest single system in the world and four-fifth of India's freight is carried over them for long distance.

Daily, more than 70 lakhs of people board the trains and 6 lakhs tonnes of goods are transported to various destination on 7,093 railway stations. The Indian Railways employed 1,603,180 persons at the cost of Rs. 2,353.38 crores. There were 1,13,462 railway bridges in existence on 31 March 1985. The value of stores purchased by the Railways during 1984-85 totalled Rs. 2,182 crores. There were 41,946 level crossing on the Indian Railways on 31 March 1985.

ADMINISTRATION OF RAILWAYS—The responsibility for the overall control and administration of the railway vests in the Railway Board, set up in 1905. The Board consists of a Chairman who is the ex-officio Secretary General of the Railway Ministry, a Financial Commissioner and three each in charge of Mechanical Staff and Traffic who are of the status of Secretaries to the Railway Ministry. Besides, there are 7 additional members.

DIVISIONAL SYSTEM—In order to provide a unified control of operation and other allied railways activities over a longer area than that of an average district and to vest the responsibility for co-ordinating the working of different departments in the area. Divisional System has been introduced in Indian Railways.

Each Division is under a Divisional Superintendent who functions in his sphere more or less as the General Manager does for the entire Zonal Railway. He is, however, under the control of the General Manager. Specialized Departments like stores and workshops are excluded from the Divisional control. These are continued to be controlled by headquarters direct as hitherto.

RAILWAY FINANCE—In 1925, the railway finance was separated from the general finance with the object of relieving the general budget from violent fluctuations, thus enabling the railways to carry on a continuous policy. Under the convention, the railways contribute to the general revenues according to fixed formula.

PASSENGER TRAFFIC—The number of passenger journey during 1987-88 was 3,580 million and earning from passenger traffic was Rs. 2,027 crores.

FREIGHT TRAFFIC—Revenue earning originating goods traffic in 1987-88 was 318 million tonnes and earnings from goods traffics were Rs. 6,060 crores.

FINANCE—The gross traffic receipts of the Railways in 1987-88 was Rs. 8,709 crores and working expenses was Rs. 8,000 crores. Net revenue receipts amounted to Rs. 709 crores.

LOCOMOTIVE AND PRODUCTIONS—Internal production is now able to meet the Railways' normal annual requirements of rail, wagon and coaches. The Government owned Chittaranjan Locomotive Works (see index) and the government-assisted Tata Engineering and Locomotive Co. Ltd., are helping to attain self-sufficiency in locomotives. The Chittaranjan Works started production in 1949. The 1st Locomotive was turned out on November 1, 1950. It has produce 2,351 steam locomotives, 268 broad gauge A.C. freight type, 46 A.C. mixed traffic

and 30 D.C. freight type electric locomotives, 111 broad gauge diesel shunting and 10 narrow gauge line diesel locomotives and 2,305 locomotive boilers since its inception.

The Integral Coach Factory (see index) at Perambur (Tamil Nadu) went into production 6,588 fully, furnished coaches since its inception.

The Government-owned Hindustan Aircraft Ltd., at Bangalore is producing all-steel passenger coaches.

The Diesel Locomotive Works (See Index) at Varanasi turned out the first locomotive in January 1964. It has produced 507 locomotives since its inception.

TRAINING CENTRES AND RESEARCH—Training facilities for officers in the Engineering and Traffic Departments are provided in railway training and technical institutes. A Staff College for Class I and II Officers and special Class Apprentices was opened at Baroda on January 31, 1952. The College provides facilities for training probationary officers and special class apprentices, refresher courses for junior officers (except medical), and special short term courses on selected subjects for junior officers. There are 50 training schools. Some of them are traffic training schools. In other schools, locotraining staff, apprentice-mechanics, train-examiners and train apprentices are trained. A Signal Training Schools for inspection staff of the Signalling Department was opened in 1967 at Lalloguda in Secunderabad.

As Technical advisers and consulting engineers to the Railway Board and the zonal railways, the function of the Research, Designs and Standards Organisation is to ensure that the Indian Railways have sufficient and up-to-date technical know-how to operate as an efficient unit. The RDSO took its present shape in 1957.

There is a Railway Testing and Research Centre at Lucknow and a sub-centre at Chattaranjan mainly to help in the production of self-sufficiency in railways stores.

ELECTRIFICATION OF RAILWAYS—The first electric-train ran on a Bombay Suburban Section on February 3, 1925. By March 1987, the total route length electrified on Indian Railways was 7270 kms.

DIESELISATION—Diesel traction is being adopted gradually.

UNDERTAKINGS—Rail India Technical and Economic Service was incorporated in 1974 for providing technical consultancy services in all fields of railway technology, transportation and system studies, engineering surveys, traffic and market surveys, project management, detailed, designs, etc. The Authorised and paid-up capital of the company are Rs. 1 crore and 10 lakhs, respectively, INDIAN RAILWAY CONSTRUCTION CO. LTD., was established in April 1976 for taking up construction of Railway project on turnkey basis. The company's paid-up capital was Rs. 2.44 crores in 1982-83.

RAILWAY ZONES—The Indian Railways have been grouped into 9 zones for economy and efficiency of administration. Certain narrow gauge feeder railways owned by private companies are not included in the Zonal system, although under the Railway Companies (emergency Provision) Act, 1951 the Government assumed powers to ensure their efficient operation. The zones with their respective headquarters and route kilometres traversed by them as on March 31, 1983 are as under :

Zones	Date of Creation		Headquarters	Route
Southern	Apr.	14, 1951	Madras	10,067.08
Central	Nov.	5, 1951	Bombay	8,849.63
Western	Nov.	5, 1951	Bombay	10,293
Northern	Apr.	15, 1952	Delhi	10,975
North-Eastern	Apr.	14, 1952	Gorakhpur	1,967.30
Eastern	Aug.	1, 1955	Calcutta	4,238
South-Eastern	Aug.	1, 1955	Calcutta	7,041
North-East- Froinier	Jan	15, 1958	Pandu	3,580
South-Central	Oct.	2, 1966	Secunderabad	7,023

DESCRIPTION OF RAILWAYS

CENTRAL RAILWAY—serves Maharashtra, Madhya Pradesh, Andhra Pradesh, Uttar Pradesh, Karnataka, Rajasthan and Punjab. The line consists of the former G.I.P. Railway, Scindia Railway, Dholpur Railway and Nizam's State Railway.

EASTERN RAILWAY—covers West Bengal, Bihar and part of Uttar Pradesh and has its headquarters at Calcutta. It extends to Budge-Budge, Diamond Harbour, Lakshikantapur and Canning to the south, Petrapol and Gede to the Bangladesh Border, Lalgola and Barharwa to the north along both sides of the Bhagirathi and to Mughalsarai to the north-east via Grand-Cord, the main line, the Sahibganj loop and the Gomoh-Barkakhana-Daltonganj loop. Starting from Howrah, the main line runs 137 miles to Sitampur, 2 miles beyond Asansol, from where it radiates in two directions, one via Patna and the other via Gaya to converge at Mughalsarai, where it joins the Northern Railway.

Connecting Calcutta with its vast hinterland, this Railway provides transportation facilities to the rice, sugar, and jute-producing areas of West Bengal and Bihar, coal and steel industries of these two States and mica and iron-ore mines of Bihar. It serves to number of basic industries like metallurgical and steel manufactures at Burnpur, Kulti and Durgapur, chemical fertilizers at Sindri and locomotive production at Chittaranjan, besides most of other important industries.

NORTH-EASTERN RAILWAY—which came into existence on April 14, 1952 serves the northern part of Bihar. This line operates in a well-developed agricultural region and carries sugarcane, tobacco and rice.

NORTH-EAST FRONTIER RAILWAY—came into existence on January 15, 1958, by separating a portion of the North-Eastern Railway. This line begins in Assam and serve the northern part of West Bengal. The Darjeeling-Himalayan line is within this Railway.

NORTHERN RAILWAY—came into being in 1952 through the synthesis of the three divisions of the former E.I. Railway, a portion of the B.B. and C.I. Railway and the whole of the Eastern Punjab, Jodhpur and Bikaner Railways. This line serves Punjab, Delhi, northern and eastern Rajasthan, and Uttar Pradesh up to Varanasi.

SOUTH-CENTRAL RAILWAY—was inaugurated on 2nd October 1966. This Railway serving 774 stations including Halts and Flag Stations, caters to the transport requirements of about 50 million people of Andhra Pradesh, South Maharashtra, North-Western Karnataka and Goa. Stretching from the east coast to the west coast, this Railway traverses through a vast and variegated terrain of fertile plain areas rich in mineral wealth and stone quarries, rocky hills, well wooded as well as barren, and a coastal belt, each of which presents a contrast to the other.

SOUTH-EASTERN RAILWAY—caters to the needs of 6 states, West Bengal, Bihar, Orissa, Andhra Pradesh, Madhya Pradesh and Maharashtra. Starting from Howrah, it runs up to Kharagpur. On wards the main line goes to Nagpur. To the South, the east-coast line runs to Waltair. The third line runs from Kharagpur in north-westerly direction to serve the coalfields of West Bengal and Bihar. The Raipur-Vizianagram broad gauge section, opened in 1931, links Vishakhapatnam with Madhya Pradesh for carrying the heavy manganese-ore traffic for export. This Railway joins the Eastern Railway at Howrah, Asansol, Gomoh, Barkakhana and Chandrapur. It joins the Southern Railway at Waltair and the Central Railway at Nagpur and Katni. Connecting the ports of Calcutta and Visakhapatnam with their vast hinterlands, it serves the rich paddy fields of West Bengal, hinterlands of Orissa and Madhya Pradesh as also the coal and steel industries of Bihar and West Bengal. The area covered by this Railway is rich in deposits of essential raw materials, such as iron-ore, copper, coal, manganese, lime, bauxite and dolomite. Four of the five major steel plants in the country are located on this railway.

SOUTHERN RAILWAY—On April 14, 1951 the three railway systems, viz. Madras and Southern Maratha Railway, South Indian Railway and Mysore Railway were integrated with a single railway zone—the Southern Railway. This railway covers the major part of the Peninsula south of Vindhya mountains. It serves Tamil Nadu and Kerala States practically

the whole of Karnataka, the Circars and Rayalaseema areas of Andhra Pradesh and part of Maharashtra up to Poona, Goa and Pondicherry are also on this network.

WESTERN RAILWAY—serves Maharashtra, Rajasthan and Madhya Pradesh. This line consists of the former B.B. and C.I. Railway, Saurashtra Railway, Rajasthan Railway and Jaipur Railway. This line serves the great industrial areas around Bombay. Ahmedabad and Baroda handles tremendous quantities of cotton.

METRO RAILWAY—On, 24th October, 1984, India entered the Metro Age, when the station between Esplanade and Bhowanipur in Calcutta covering a length of 3.5 kms connecting five stations was opened for Commercial operation. The total stretch of 16.43 kms from Dum Dum to Tollygunj having 17 stations have been planned. Two terminal stations at Dum Dum and Tollygunj will be on surface and the remaining fifteen stations will be underground. The total expenditure incurred upto March 1985 is Rs. 306 crores.

PASSENGER TRAFFIC AND EARNINGS

	No of passenger (in millions)	Passenger (in kilometres millions)	Earnings from passengers (in crores of of rupees)	Average rate charged per passengers per kilometre
1982-83	3,655	2,26,930	1,161.6	5.12
1983-84	3,325	2,22,935	1,351.9	6.06
1984-85	3,333	2,26,582	1,456.8	6.43
1985-86	3,433	2,40,600	1,719.4	7.15
1986-87	3,580	2,26,500	1,939.7	7.56

FINANCIAL POSITION OF INDIAN RAILWAYS

(in crores of rupees)

	1985-86	1986-87	1987-88	1988-89
Capital-at-charge	9,078	10,373	11,491	12,786
Gross Traffic Receipts	6,428	7,506	8,474	9,393
Other Receipts	163	177	235	270
Working Expenses				
including Depreciation	5,905	7,002	8,000	8,899
Net Revenue	686	681	709	764
Dividend of General				
Revenues	507	579	640	736

MILEAGE OF INDIAN RAILWAYS

The Indian Railways had 61,385 route kilometres of tracks on 31st March, 1983. This, however, represents the aggregate route length and includes the length of 13,219 route Kilometres which have either double or multiple tracks. The total length of running tracks is 76,197 kilometres. The table below compares the railway net-work at the end of 1982-83 with those of earlier years.

Year	Total route km.		Running track km.		Total track km.	
	Electrified	Total	Electrified	Total	Electrified	Total
1950-51	388	53,596	937	59,315	1,253	77,609
1955-56	388	55,011	937	60,845	1,253	78,233

Year	Total route km.		Running track km.		Total track km.	
	Electrified	Total	Electrified	Total	Electrified	Total
1960-61	748	56,247	1,752	63,602	2,259	83,706
1965-66	2,423	58,399	4,847	68,375	6,302	92,474
1968-69	3,347	59,553	6,537	70,651	8,430	97,785
1973-74	4,191	60,234	8,401	74,104	10,823	101,028
1976-77	4,720	60,666	9,373	74,839	12,002	102,837
1977-78	4,720	60,693	9,360	75,012	12,037	103,325
1978-79	4,722	60,777	9,363	75,195	12,070	103,587
1979-80	4,820	60,933	9,562	75,450	12,305	103,906
1980-81	5,345	61,240	10,474	75,860	13,448	104,480
1981-82	54,733	61,230	10,608	75,964	13,710	104,711
1982-83	5,815	61,385	11,058	76,197	14,348	105,106
1983-84	5,971	61,460	11,416	76,407		
1984-85	6,325	61,850	12,018	76,963		

This includes tracks in yards and sidings.

SOME RAILWAY ORGANISATIONS

CENTRAL STANDARD OFFICE—at New Delhi, looks after all work connected with the production of standard designs and specifications of all materials, plants and rolling stock in use on Indian Railways. Three separate branches of this office deal respectively with mechanical engineering standards, civil engineering standards and specifications while a separate research undertakes civil and mechanical engineering research.

INDIAN RAILWAY CONFERENCE ASSOCIATION—was first organised in 1871. The present organisation was inaugurated in 1902 establishing the permanent conference independent of Government. The Association lay down rules for the interchange of stock between railways and acts as a central co-ordinating agency for tackling all problems of common interest such as coaching, tariff, freight structure, interchange rules, cross traffic rules etc.

RESEARCH, DESIGNS AND STANDARD ORGANISATION—is in the charge of Director-General for co-ordinating the function of the three different wings of the Organisation.

Consultative Committee—Constant and close consultation between public and the railway administration is served through the following committees—

(1) **Regional Railway Users' Consultative Committees** at the levels represents the local users in the territories served by the railway including agriculture interest.

(2) **Zonal Railway Users' Consultative Committee** at the head-quarters of each railway zone.

(3) **National Users' Consultative Council** at the centre deals with matters of all India importance relating to services and facilities provide by the railways.

(4) **Divisional Railway Users' Consultative Committees** were set up in 1958 for each division of the railways on which divisionalisation has already been brought out.

(5) **Zonal Parliamentary Committees** have been formed, which meet the respective General Manager of the Zonal Railways to deal with the great variety of problems of interest.

OTHER COMMITTEES—Time-table Committees, Suburban Railway Users' Consultative Committee, Passenger Amenities Committee, Catering Supervisor Committee and Book Stall Committee.

RAILWAY RATES TRIBUNAL—was established in 1949. Enquiries into complaints lodged by the commercial bodies and representative trade associations in the matter of freight changes on other cognate matters. Its office is located in Madras. It deals only with

freight rates and has mandatory jurisdiction. It consists of a President and two members. To assist the Tribunal, two panels of assessors are constituted, one representing trade industry and agriculture and the other, the railways.

RAILWAYS SERVICE COMMISSIONS—are at Bombay, Calcutta, Allahabad and Madras for the purpose of recruitment of railway personnel. Each Service Commission has a Chairman, a Secretary with a secretariat and one or two members.

EFFICIENCY BUREAU—has been set mainly to investigate problems having a bearing on the efficiency of the railways in various facets of working to suggest ways and means of securing improvements in efficiency.

CENTRAL CLEARING HOUSE—There is Clearing Accounts Office at Delhi, whose main function is to allocate inter-railway revenue and expenditure under various heads to different railways.

CENTRAL BOARD OF RAILWAY RESEARCH—Consisting of eminent scientists, engineers and industrialists, has been set up to advise on the programme of research and development of the railway organisations and to ensure co-ordination between other sister institutions and manufacturers.

PUBLIC HEALTH

MINISTRY OF HEALTH—Matters connected with health fall largely in the State field. The Central Governments functions in respect of matters in the State List are the co-operation of policy and planning, the collection and exchange of information, expert technical assistance and advice on matters relating to hospitals, medical education. Local Self-Government or water-supply schemes and guidance on other matters on country-wide interest, such as drug legislation, prevention of food adulteration or control of epidemics. The Centre is directly responsible for State subjects in the Union Territories of Andaman and Nicobar Islands and Lakshadweep. The Central Government also administer a number of important training institutions and other-establishment in various places.

LABORATORIES AND DEPOTS

B.C.G. VACCINE LABORATORY, GUINDY, MADRAS—was established in 1948 by the Central Government with the help of UNICEF and WHO and is the world's largest vaccine-producing centre. The Laboratory supplies tuberculin and B.C.G. vaccines.

CENTRAL DRUGS LABORATORY, CALCUTTA—is a statutory laboratory set up under the Drug Act to analyse and test samples of drugs which may be sent to it by the Central Government and to carry out other function as may be assigned to it by the Central and State Governments.

CENTRAL FOOD LABORATORY, CALCUTTA—has been set up by the Central Government under the Prevention of Food Adulteration Act, 37 of 1954 for analysis of food samples investigation for the purpose of fixation of standards of any article of food, etc.

CENTRAL RESEARCH INSTITUTE, KASAULI—was established in 1905 and supplies vaccine of TAB, cholera, rabies, etc.

HOFFKINS INSTITUTE, BOMBAY—manufactures sulpha drugs, the main functions of the Institute are medical research, training of research workers, supply of vital biologicals and diagnosis aids to the medical profession. The Institute is run by the Government of Maharashtra and collaborates with such national and International organisation as the Indian Council of Medical Research, the W.H.O. and the Rockefeller Foundation.

CENTRAL INDIAN PHARMACOPOEIA LABORATORY, GHAZIABAD—is a statutory laboratory for testing of condoms. It is also responsible for carrying out laboratory investigation in connection with standard for drugs included in the Indian Pharmacopoeia.

INDIGENOUS SYSTEM OF MEDICINE

The Government of India has decided to recognise only the modern system of medicine. But the well-settled policy of the Government is to give all possible help and encouragement to the indigenous and homoeopathic system of medicine and incorporate contributions of approved

value from them in the existing system of medicine. THE CENTRAL COUNCIL OF AYURVEDIC RESEARCH has been set up in pursuance of one of the recommendations of K.N. Udupa Committee set up in 1959. THE CENTRAL INSTITUTE OF RESEARCH IN INDIGENOUS SYSTEMS OF MEDICINE has been functioning since August 24, 1953 at Jamnagar with a hospital and an outpatient department. A new 'Siddha' unit was started in the year 1956-57. A post-graduate training centre in Jamnagar and another research centre at Banaras Hindu University on Ayurveda have been started. State Board have been set up in almost all States for the regulation of practice in indigenous systems of medicine. India's first Ayurvedic University was inaugurated on 6th Jan., 1969 at Jamnagar, Gujarat. The survey of Medical Plants units at Hardwar and Ranikhet (U.P.) conducts surveys and collect specimens of plants and seeds from the Himalayan and Sub-Himalayan regions.

THE CENTRAL COUNCIL OF INDIAN MEDICINE was established in 1971 with the aim of recognition of medical qualifications in Ayurveda, Unani Tib and Siddha, to evolve and maintain uniform standards of education and also to maintain a Central Register for these systems of medicine. THE CENTRAL COUNCIL OF HOMEOPATHY, constituted in 1974, continued its activities for the betterment of standards of Homoeopathic education and practice.

CENTRAL RESEARCH INSTITUTE FOR YOGA is conducting clinical, fundamental and literary research in Yoga, since its inception.

THE RASHTRIYA AYURVEDA VIDYAPEETH is an autonomous body set up on 11th February, 1988, with the objective to recognise merit in various branches of Ayurveda and awards fellowships and memberships to the practitioners of Ayurveda, particularly those traditionally trained but having outstanding knowledge and enjoying wide practice.

The Government of India have purchased land at Kothrud, near Poona, to establish a Central Herb Garden and Museum of Drugs, This garden which is known as the Jawaharlal Nehru Ayurvedic Medicinal Plants Gardens and Herbarium was inaugurated on November 14, 1964.

There are over 97 institutions recognized by Medical Councils of different States imparting training in homeopathy, and some are recognised by the State Boards, The Unani Advisory Committee has also been formed.

INDIAN MEDICINES PHARMACEUTICALS CORPORATION LTD., renamed as KUMAON MANDAL VIKAS NIGAM LTD., is set up in the Kumaon Hills with the prime objective to produce pure and authentic Ayurvedic and Unani medicines.

HEALTH PLANNING COMMITTEES

Some important committees for the promotion of health in India are mentioned below:

MEDICAL COUNCIL OF INDIA—was reconstituted in 1960 under the Medical Council Act of 1956. The Council, inter alia, is responsible for the maintenance of the Indian Medical Register which contains the names of all medical practitioners who are enrolled on the State Medical Registers and who possess any recognised medical qualifications under the aforesaid Act.

CENTRAL COUNCIL OF HEALTH—was started on August 9, 1952 under Article 263 of the Constitution. It considers and recommends broad lines of policy in regard to matters concerning public health in all its aspects.

INDIAN NURSING COUNCIL—was inaugurated at Delhi on May 19, 1949. One of the main functions of the Council is to lay down minimum standards for the training of nurses. The Indian Nursing Council has been vested with the power to inspect training institutions and examinations. The main object of the Council is to establish an uniform standard training for nurses, midwives and health visitors, etc.

CENTRAL COMMITTEE FOR FOOD STANDARDS—the main functions of the Committee are to advise the Central and State Governments on matter arising out of the administration of the Prevention of Food Adulteration Act, 1954 and to carry on other functions enumerated in the Act.

STATE MEDICAL COUNCILS—which begun to function in 1942, are now functioning in all the States. The State Councils keep registers of qualified practitioners, supervise medical education and inspect examinations, exercise disciplinary powers over medical practitioners and also advise the State Government in regard to recognition of various medical qualifications.

PHARMACY COUNCIL OF INDIA—is a statutory body constituted under Section 3 of the Pharmacy Act of 1948. Its functions are to regulate the profession and practice of pharmacy, complete enforcement of the Pharmacy Act, and furtherance of training in Pharmacy and educating the public about the profession.

DENTAL COUNCIL OF INDIA—With the passing of Indian Dentists Act of 1948, the Council was inaugurated on May 4, 1949 for the development of the Dental Councils at the Centre and in the States.

ALL-INDIA COUNCIL OF POST-GRADUATE OF MEDICAL EDUCATION—has been constituted to prescribe standards for post-graduate medical education in the universities and offer suggestions to evolve uniformity of standard throughout the country.

NATIONAL NUTRITION ADVISORY COMMITTEE—was set up in 1960 in pursuance of the recommendations of Rome Conference of F.A.O. in 1957. It formulated that the member Governments should take implementing policies and plans setting and consumption including international trade in food.

THE CENTRAL MEDICO-LEGAL ADVISORY COMMITTEE—was set up in 1955 to advise the Central and State Governments on matters pertaining to medicolegal procedure and practice in India and to promote the development of new and modern techniques in the field of medico-legal work.

FOOD ADULTERATION

THE PREVENTION OF FOOD ADULTERATION ACT, 1954 and its Rules are in operation throughout the country. It provide for severe punishment to offenders and prohibits the manufacture, imports or sale of adulterated food articles. **THE CENTRAL COMMITTEE FOR FOOD STANDARDS** and the **CENTRAL FOOD LABORATORY** have been established in Calcutta.

DRUG ADDICTION—Opium has been banned in India for a long time. It is now used for medical purposes. Ganja (cannabis) in any form is also banned in the country. Nevertheless, drug addiction is spreading widely. According to the United Nations Drug Commission there are 80,000 people in India taking opium and 200,000 taking ganja.

MEDICAL RESEARCH

Medical Research in the country is organised largely through the **INDIAN COUNCIL OF MEDICAL RESEARCH**, founded in 1912 in New Delhi. The Council plays a significant role on aiding promoting and co-ordinating scientific research on human diseases their causation prevention and cure. The research works are done through the Council's several permanent research institutes, research units, field survey, research service units and large number of adhoc research enquiries financed by the Council in Medical Colleges, research institutions, University Science Department, etc. It maintains Cancer Research Centres, Tuberculosis Chemotherapy Centre at Madras, Virus Research Centre at Poona, Nutrition Research Laboratory at Hyderabad and Blood Group Reference Centre at Bombay.

The field station one at Sagar in Karnataka State and another at Vellore in Tamil Nadu State of **VIRUS RESEARCH CENTRE**, Poona are functioning for investigations on specific problems. The VRC has been recognised as a Collaborating laboratory of the WHO for arboviruses.

MEDICAL EDUCATION, TRAINING AND RELIEF

Medical education in general is the responsibility of the States. The Government of India's interest is limited to the promotion of higher studies and specific schemes of research and specialised training.

There are at present 106 medical colleges, 15 dental colleges and 20 institutions for training in the allopathic system of medicine. Admission capacity of these colleges is 12,500.

In rural areas, there are about 16,954 primary health centres and 1,12,103 sub-centres and 1,469 community health centres.

In tribal areas, there are about 2,307 and 14,942 Primary Health Centres and Sub-Centres respectively. Besides 242 community health Centre and 1035 Allopathic Dispensaries are functioning in the tribal areas.

CENTRAL HEALTH EDUCATION BUREAU—established in November, 1956 coordinates and promotes health education in the country. It functions through two main Media and Methods Division. The Media Division is completed with the exception of Museum and Exhibition units. Under the Methods Division the training and research units are functioning. There is a separate unit for school health education. It also produces 2 quarterly bulletins and 2 monthly magazines and maintain a film library.

ALL-INDIA INSTITUTE OF MEDICAL SCIENCE, NEW DELHI—was set up in 1959 under an Act of Parliament and enjoys the status of an institution of national importance. It was set up with a view to (i) attaining self-sufficiency in post-graduate medical education, (ii) bringing together in one place educational facilities of the highest order. The Institute has an Under-graduate Medical College with 50 annual admissions.

TRAINING AND RESEARCH IN MEDICAL STATISTICS—This scheme provides for training in 'Medical Statistics' at the All-India Institute of Hygiene and Public Health, Calcutta and in 'Medical Records Keeping' at the Christain Medical College and Hospital, Vellore.

MODEL VITAL HEALTH STATISTICS UNITS, NAGPUR—started functioning in 1957.

FOREIGN SCHOLARS AND FELLOWS IN INDIA—India is providing facilities for higher training in medicine, public health and allied subjects to the students from foreign countries, mostly from Africa and Asia.

POST-GRADUATE MEDICAL (INCLUDING DENTAL) EDUCATION IN MEDICAL INSTITUTE—This scheme envisages allotment of 23 new departments in various medical colleges in the country. The selected candidates are awarded a monthly stipend of Rs. 200.

POST-GRADUATE MEDICAL EDUCATION : DELHI SCHEME—Post-graduate course in medicine, surgery, gynaecology, paediatrics, etc. 12 courses are being conducted in Delhi hospitals, etc. The stipend for these courses are Rs. 200 per month.

ADMISSION OF STUDENTS BELONGING TO THE UNION TERRITORIES TO MEDICAL COLLEGES—Arrangements are being continued for the admission of students belonging to Union Territories which do not have medical colleges and students belonging to other categories to medical colleges.

ADMISSION TO MEDICAL COLLEGES UNDER THE GOVERNMENT OF INDIA CENTRAL SCHOLARSHIP SCHEME—Students of Indian origin domiciled abroad and foreign students are admitted to various medical college in the country for which seats have been reserved.

REFRESHER COURSES FOR CENTRAL PRACTITIONERS—This scheme has been included as a Central scheme in the third Plan.

LADY HARDINGE MEDICAL COLLEGES AND HOSPITALS, NEW DELHI—is a leading medical college for women in the country.

KALAVATI SARAN CHILDREN'S HOSPITAL, NEW DELHI—is a constituent unit of the Lady Hardinge Medical College and Hospital, New Delhi with 284 beds, for medical cases, with a department of physical Medicine and Rehabilitation for treating cases of paralysis and rehabilitating them. The Institution imparts paediatric teaching to the undergraduate medical students of the Lady Hardinge Medical College and to the students

nurses of the same College and Hospital, to the Public Health Nursing students of the Lady Reading Health School, and to the students of the Mid-wifery Sisters' and Mid-wifery Tutors' course of the College of Nursing.

MAHATMA GANDHI INSTITUTE OF MEDICAL SCIENCES, SEWAGRAM—was set up in commemoration of Mahatma Gandhi Centenary Celebration in 1969. It has an annual admission capacity of 67 students. The institute is 501 bedded hospital.

LADY READING HEALTH SCHOOL AND RAMCHAND LOHIT INFANT WELFARE CENTRE, DELHI—The School conducts Certificate course in Public Health Nursing of 10 months duration and Integrated Health Visitors' course of 2 1/2 year duration.

PHYSIOTHERAPY SCHOOL AND TRAINING CENTRES AT K.E.M. HOSPITAL, BOMBAY—A physiotherapy training and service centre at the K.E.M. Hospital, Bombay, has been established by the Government of India under an agreement with the WHO in collaboration with the Government of Maharashtra and the Municipal Corporation of Bombay. The Centre is equipped with one ultra-vibrator.

DHANVANTARI MEDICAL COLLEGE, PONDICHERRY—This College had started functioning in 1956. It is affiliated to the University of Madras.

COLLEGE OF NURSING, NEW DELHI—was established in 1946 and is affiliated to the Delhi University. Renamed as Rajkumari Amrit Kaur College of Nursing in the Year 1974 by the Ministry of Health and Family Welfare. It prepares students for the following courses—Master of Nursing, B.Sc. (Hons), in Nursing, Ward Sister' Courses, Sister Tutors' Course, Mid-wifery Tutors' Course and Nursing Administration.

THE CHILD GUIDANCE CLINIC at the College of Nursing was started in 1955 at a part of psychology teaching department to provide B.Sc.(Hons) nursing students with clinical reference to emotional problems. It also provides free service.

TRAINING OF NURSES AND AUXILIARY NURSE-MIDWIVES, HEALTH VISITOR AND DAIS—There are 350 nursing schools attached to major hospitals in addition to the 18 colleges of nursing affiliated to various universities. Eight colleges offer master's degree in nursing. There are 382 auxiliary nurse midwife/health workers schools in the country.

The Central Medical Library of Directorate General of Health Services was declared as the National Library with effect from 7th April, 1966.

The number of hospital beds was 4.7 lakh in 1977. The estimated number of active doctors and nurses at the end of 1987-88 was 1.7 lakhs and 2,19,299 respectively.

MEDICAL RELIEF SANITATION AND PUBLIC HEALTH IN THE UNION TERRITORIES—The Central Government is directly concerned with the provisions of medical relief in the Union Territories.

HEALTH INSURANCE SCHEME which provides, inter alia, medical benefits to industrial workers in the country.

CONSTITUTION HEALTH SERVICE SCHEME came into operation on 1st July, 1954 and was confined first to Delhi and New Delhi only and serves Central Government employee. The Scheme has been extended to Bombay from November, 1963.

FINANCIAL ASSISTANCE TO VOLUNTARY MEDICAL INSTITUTIONS are given.

NATIONAL CLEANLINESS DAY, AND CHILDREN'S DAY CELEBRATIONS was inaugurated on 2nd October, 1960 and 14th November, 1960 respectively, Antileprosy Day is observed on Mahatma Gandhi's martyrdom day, the 30th January.

WATER SUPPLY AND SANITATIONS—The National Water Supply and Sanitation Programme launched in 1954, is continuing. Most of the 369 urban water supply schemes, 100 urban drainage schemes and 348 rural water supply and sanitation scheme, estimated to cost Rs. 102.17 crores, have been completed. A **DRINKING WATER BOARD** was set up in 1963.

INSTITUTE & TRAINING CENTRES

ALL-INDIA INSTITUTE OF HYGIENE AND PUBLIC HEALTH, CALCUTTA—was established in 1932 with the aid of an endowment from Rockefeller Foundation. The objects of the Institute are (1) the training of public health personnel, (2) qualifying students for public health diploma and (3) pursuits of research on several aspects of public health including study of diseases like malaria, etc. The Institute functions as a Yellow Fever Vaccine Centre for the distribution of vaccine of different centres.

RURAL HEALTH UNIT AND TRAINING CENTRE, SINGUR (WEST BENGAL)—functions as the rural practice field for students of the all-India Institute of Hygiene and Public Health. It covers an area of 58.5 sq.km. spread over 60 villages and caters to an estimated population of 72,573.

NATIONAL INSTITUTE OF HEALTH ADMINISTRATION AND EDUCATION, DELHI—was registered on the 24th September, 1964. A grant of 1,246,000 has been made by the Ford Foundation to the Central Government for providing initial support to this Institute and the Central Family Planning Institute over a 5-year period.

CENTRAL FAMILY PLANNING INSTITUTE, NEW DELHI—was established in 1962 mainly for the advancement of knowledge in various aspects of the Family Planning movement in India. In order to facilitate expeditious achievement of its object the Government of India registered this Institute on 20th November, 1964. The Institute has six divisions, such as Administrative, Education, Training and Social Services, etc.

URBAN HEALTH CENTRE, CHETLA, CALCUTTA—This Health Centre, apart from providing comprehensive health service, functions as a training centre for the students of various medical institutions in its activities.

CENTRAL RESEARCH INSTITUTE, KASALI (1960)—provides facilities for research. Vaccines and sera manufactured by the Institute are cholera, T.A.B. Antirabic Antibiotic (animal) and Antirabic (dog) vaccines, Antivenom serum, Diphtheria Antitoxin. Normal Horse Serum, Tetanus Toxin, Antirabic Serum and Curative vaccine are also manufactured here. The Institute has following 6 sectors, (1) bacterial vaccine, (2) biochemistry, (3) biological, (4) serum concentration, (5) rabies and (6) antibiotics.

ALL-INDIA INSTITUTE OF PHYSICAL MEDICAL AND REHABILITATION, BOMBAY—which was started as a joint venture of the Central and the Maharashtra Governments, Bombay Municipal Corporation and the UNICEF, was taken over by the Government of India on October 1, 1961. It imparts postgraduate instruction in rehabilitation of the disabled, in Physio-Therapy, Occupational Therapy and other services, etc.

NATIONAL INSTITUTE OF MENTAL HEALTH AND NEURO-SCIENCES, BANGALORE—All India Institutes of Mental Health, inaugurated on August 6, 1954 was amalgamated with Government Mental Hospital, Bangalore, on December 27, 1974 to form this Institute. The Institute provides training for the 8 post-graduate courses.

ALL-INDIA INSTITUTE OF SPEECH AND HEARING, MYSORE—was established on 9th August, 1965 to provide training and research facilities for speech Pathologists and Audiologists. It is financed by the Government of India.

CENTRAL LEPROSY TEACHING AND RESEARCH INSTITUTE, CHENNAI—is controlled by the Government of India. Activities of the Institute include treatment of and welfare activities for the patients and training of personnel and research.

REGIONAL LEPROSY TRAINING AND RESEARCH INSTITUTE RAIPUR—was established in 1979 with a goal to provide curative services to leprosy patients and to impart training to both medical and para medical workers and to conduct operational research in the field of Leprosy. It has a hospital with 75 beds.

Two more Institutes at Aspa and with Gouripur with 50 beds hospitals were also set up. **DEPARTMENT OF SEROLOGIST AND CHEMICAL EXAMINER TO THE GOVERNMENT OF INDIA, CALCUTTA**—carries on medicolegal analysis of blood and semen and other stains on exhibits seized in connection with the prosecution of criminals and manufactures ampoules of V.D.R.I. antigen and requisite quality of buffered saline diluent.

NATIONAL INSTITUTE OF COMMUNICABLE DISEASE, DELHI—The Malaria Institute of India was converted into this Institute on August 21, 1962. The official inauguration took place on July 30, 1963. The Institute is the main centre for research and training in the field of Communicable Diseases. It has 7 divisions.

NATIONAL T.B. TRAINING INSTITUTE, BANGALORE—was inaugurated in 1959. It has a training course for B.C.G. workers.

PASTEUR INSTITUTE OF SOUTHERN INDIA, COONOR—manufactures influenza vaccine on a pilot basis, carries on research on the value of antibiotic serum and its production on a pilot basis and carries on studies in rabies, influenza, respiratory and intestinal viruses, syphilis and smallpox. The special laboratories designed for the production of live polio virus vaccine have been furnished and fitted up. The Institute was established in 1907.

CENTRAL INSTITUTE OF PSYCHIATRY, RANCHI—The hospital for mental diseases, Ranchi funded in 1918 was renamed as above in April 1977. A post-graduate training centre, Affiliated with this institution, since July 1962 offers training facilities in psychiatry and cognate fields.

RURAL HEALTH TRAINING CENTRE, NAJAFGARH, DELHI—performs a three fold function service, training and research.

VALLABHAI PATEL CHEST INSTITUTE, DELHI—has been established mainly for conducting research in disease of the chest and in training doctors in that line. Successful candidates receive the Diploma in Tuberculosis and Chest Disease (D.T.C.D.) from the Delhi University.

MEDICAL COLLEGES IN INDIA

(Years of Establishment shown within bracket)

ANDHRA PRADESH : Andhra Medical College, Viskhapatnam (1923), Gandhi Medical College, Hyderabad (1954), Guntur Medical College, Guntur (1964), Kakatiya Medical College, Warangal (1959), Kurnool Medical College, Kurnul (1956), Osmania Medical College, Hyderabad, (1926), Rangaraya Medical College, Kakinada (1958), S.V. Medical College, Tirupati (1960).

ASSAM : Assam Medical College, Dibrugarh (1947), Guwahati Medical College, Guwahati (1960), Medical College, Silchar (1962).

BIHAR : Darbhanga Medical College, Laheriasaria (1964), Prince of Wales Medical College, Patna (1925), Rajindra Medical College, Ranchi (1955), Medical College, Sakchi, Jamshedpur (1961).

GUJARAT : B.J. Medical College, Ahmedabad (1964), M. P. Shah Medical College, Jamnagar (1955), Medical College, Surat (1964), Medical College, Baroda (1949), Municipal Medical College, Ahmedabad (1963).

HARYANA : Medical College, Rohtak (1960).

JAMMU & KASHMIR : Medical College, Srinagar (1959), Medical College, Jammu (1971).

KARNATAKA : Bangalore Medical College, Bangalore (1955), Karnataka Medical College, Hubli (1957), Kasturba Medical College, Manipal (Mangalore) (1953), Medical College, Mysore (1924), Medical College, Bellary (1961), Medical College, Gulbarga (1963), Medical College, Belgaum (1963), Medical College, Davangere (1965), St. John's Medical College, Bangalore (1963).

KERALA : Medical College, Trivandrum (1951), Medical College, Calicut (1957), Medical College, Kottayam (1961), Medical College, Alleppy (1962).

MADHYA PRADESH : Gajra Raja Medical College, Gwalior (1946), Gandhi Medical College, Bhopal (1955), Mahatma Gandhi Memorial College, Indore (1948), Medical College, Jabalpur (1955), Medical College, Rewa (1963), J.L. Nehru Memorial Medical College, Raipur (1963).

MAHARASHTRA : Armed Forces Medical College, Poona (1962), B.J. Medical College, Poona (1964), Aurangabad (1956), Grant Medical College, Bombay (1845), Medical

College, Nagpur (1947), Medical College, Sion (1905), Medical College, Miraj (1962), Medical College, Sholapur (1963), Seth G.S. Medical College, Bombay (1925), Topiwala National Medical College, Bombay (1921), Municipal Medical College, Nagpur (1967).

ORISSA : Medical College, Burla, Sambalpur (1959), Medical College, Berhampur (1961), Sriram Chandra Bhanj Medical College, Cuttack (1944).

PUNJAB : Christian Medical College, Ludhiana (1953), Dayanand Medical College, Ludhiana (1964), Government Medical College, Patiala (1953), Medical College, Amritsar (1943).

RAJASTHAN : Bikaner Medical College, Bikaner (1959), Medical College, Ajmer (1965), Medical College, Jodhpur (1965), Medical College, Udaipur (1961), Swai Man Singh Medical College, Jaipur (1947).

TAMIL NADU : Christian Medical College, Vellore (1942), Kilpauk Medical College, Kilpauk (1960), Madurai Medical College, Madurai (1964), Medical College, Chingleput (1965), Medical College, Madras (1850), Stanley Medical College, Madras (1938), Thanjavur Medical College, Tanjavur (1958), Medical College, Tirunelveli (1965), Medical College, Coimbatore (1961).

UTTAR PRADESH : College of Medical Sciences, Banaras Hindu University, Varanasi (1960), G.S.V.M. Medical College, Kanpur (1955), King George's Medical, Lucknow (1911), Medical College, Jhansi (1968), Medical College, Meerut (1966), Medical College, Muslim University, Aligarh (1962) Motilal Nehru College, Allahabad (1961), Medical College, Agra (1939).

WEST BENGAL : Bankura Sammilani Medical College, Bankura (1956), Calcutta National Medical Institute, Calcutta (1948), Medical College, Calcutta (1835), Medical College, Siliguri, Nilratan Sircar Medical College, Calcutta (1948), R.G.Kar Medical College, Calcutta (1916).

DELHI : All-India Institute of Medical Science, New Delhi (1956), Lady Hardinge Medical College for Women, New Delhi (1916), Maulana Azad Medical College, New Delhi (1958), Medical College, Delhi (1971).

GOA : Medical College, Panaji (1963).

HIMACHAL PRADESH : Himachal Government Medical College, Snowdown Hospital, Simla (1966).

PONDICHERRY : Medical College, Pondicherry (1956).

DENTAL COLLEGES IN INDIA

ANDHRA PRADESH : Dental Wing, Osmania Medical College, Hyderabad.

BIHAR : Dental College, Patna.

GUJARAT : Government Dental College, Ahmedabad.

KARNATAKA : College of Dentistry, Kasturba Medical College, Manipal, Dental College, Bangalore.

KERALA : Dental Wing, Medical College, Trivandrum.

MADHYA PRADESH : College of Dentistry, M.G.M. Medical College, Indore.

MAHARASHTRA : Government Dental College, Nagpur ; Government Dental College, Bombay, Nair Hospital Dental College, Bombay.

PANJAB : Dental Wing, Government Medical College, Patiala, Punjab, Government Dental College, Amritsar.

TAMIL NADU : Dental Wing, Madras Medical College, Madras.

UTTAR PRADESH : Dental College, University of Lucknow, Lucknow.

WEST BENGAL : Dr. R. Ahmed Dental College and Hospital, Calcutta.

FAMILY WELFARE

India is the first country which has taken up family planning on government level.

The Lok Sabha on 2nd August, 1971 passed a Bill to liberalise abortions under certain conditions. The abortion law known as the Medical Termination of Pregnancy Act, 1971 came into force on April 1, 1972.

A department of Family Welfare has been created under the Ministry of Health and Family Welfare. A Commissioner for Family Planning has been appointed with seven Regional Directors at Ahmedabad, Bangalore, Bhopal, Calcutta, Chandigarh, Lucknow and Patna to maintain liaison with the State Governments and the other organisations working at State level. The commissioner provides technical guidance and coordinates various activities. A Cabinet Committee on Family Planning has been constituted with the Prime Minister as Chairman to facilitate quick decision and speeding up the implementation of the programme.

THE CENTRAL FAMILY WELFARE COUNCIL, which advises the Government on programme and policies and family planning, has been reconstituted under the Chairmanship of Minister of Health and Family Planning to include among its member Health Minister of all the States, representatives of social and welfare organisations, members of parliament and some technical experts in the related fields. Various expert committee have been set up to advise the Government in the fields of Demography Communication Action Research, Mass Education and Media Bio-medicine in relation to family planning programme, Sterilization and the loop being widely prevalent methods a technical committee on the same has been appointed to advise and review the progress of sterilization and IUCD. A high powered Executive Board has been constituted in the Ministry under the chairmanship of the Secretary to promote the decision making process.

EDUCATION AND TRAINING—Honorary Family Planning Education Leaders have been appointed in all the States.

There are 5 Central Training Institutes and 42 Regional Family Planning Training Centres to train the Trainers, Extension Education and some other categories of staff. ALL INDIA INSTITUTE OF HYGEINE AND PUBLIC HEALTH, CALCUTTA; CENTRAL FAMILY PLANNING INSTITUTE, NEW DELHI; CENTRAL HEALTH EDUCATION BUREAU, NEW DELHI; FAMILY PLANNING TRAINING AND RESEARCH CENTRE, BOMBAY; AND INSTITUTE OF RURAL HEALTH AND FAMILY PLANNING, GANDHIGRAM, TAMIL NADU.

It was in April 1976, the Central Cabinet could adopt a clear population policy with definite goals assigning different roles to each segment of national activity. Some of the highlights of the national population policy is as follows :

- (1) Age of marriage to be raised to 21 for boys and 18 for girls.
- (2) Representation in Lok Sabha and State Legislatures to be frozen till 2001 A.D. at the level determined after 1971 Census.
- (3) 8% of Central assistance to State Plans to be specifically earmarked for family planning.
- (4) Monetary compensation for sterilization to be raised.
- (5) State can introduce compulsory sterilizations.
- (6) Group incentives to be introduced for panchayats, teachers & the labour.
- (7) Help to voluntary organisations to spread family planning.
- (8) Child nutrition programme to effect a decline in infant mortality
- (9) Raising of female education.
- (10) Population values to be introduced in the educational system to sensitive younger generation.
- (11) Changes in Service Rules to motivate small family norm.

At the end of December 1979, there were 1,989 Urban Centres. There are 13 City Family Welfare Bureau functioning in the country.

National Institute of Health and Family Welfare, New Delhi acts as an apex technical institute for promoting health and family welfare programme.

RESEARCH

(a) DEMOGRAPHIC RESEARCH—At present, there are 6 Demographic Research Centres, one each at Bombay, Delhi, Calcutta, Trivandrum, Dharwar and Poona. The Demographic Training and Research Centre is giving training in Demography with U.N.

assistance. The Demographic Research Centre at the Institute of Economics and Politics, Poona, was established in 1964-65.

(b) **FAMILY PLANNING COMMUNICATION RESEARCH**—There are at present 8 Family Planning Communication Research as mentioned below :—

1. **DEMOGRAPHIC TRAINING AND RESEARCH CENTRE**, Bombay. 2. **FAMILY PLANNING INSTITUTE**, New Delhi. 3. **PLANNING RESEARCH AND ACTION INSTITUTE**, Lucknow. 4. **INDIAN STATISTICAL INSTITUTE**, Calcutta. 5. **PILOT AND TRAINING HEALTH PROJECT**, GANDHIGRAM, Madurai. 6. **LADY HARDINGE MEDICAL COLLEGE**, New Delhi. 7. **NEW DELHI FAMILY PLANNING ASSOCIATION**, New Delhi. 8. **KERALA UNIVERSITY**, Trivandrum.

The Ford Foundation assistance is being received to run these projects.

(c) **MEDICAL AND BIOLOGICAL RESEARCH**—Medical and Biological studies on various aspects of Family Planning are being carried out at the various institutions and universities under the Indian Council of Medical Research.

POST AND TELEGRAPH

EARLY HISTORY—The postal system in India is, perhaps, as ancient as her temples. The first British postal system was introduced in 1766 by Lord Clive, but this was used mainly for official purposes. The postal service in India was first thrown open to the public in 1837. The first issue of postal stamps in India was made in Sind in 1852. The basis of authority of the existing postal system in India is the Act of 1854.

In October, 1851, the first telegraph line was opened for traffic between Calcutta and Diamond Harbour. The construction of long distance overhead telegraph line began in November 1853 between Calcutta and Agra. The first telegraph message was sent over the circuit on March 24, 1854. The first official Air Mail flight was undertaken on the 18th February, 1911, when 6,500 letters and post cards were flown from the U.P. Industrial and Agricultural Exhibition Grounds in Allahabad to Naini Junction by M. Pequet, a French aviator.

DEPARTMENT OF COMMUNICATION—is responsible for administration of the undermentioned organisations, the Heads of which are indicated against each :— (i) **POSTS AND TELEGRAPHS DEPARTMENT** (Director-General, Posts and Telegraphs) ; (ii) **Wireless Planning and Co-ordination Wing** (Wireless Adviser to the Government of India) ; (iii) **Overseas Communication Service** (Director-General, Overseas Communication Service) ; (iv) **Indian Telephone Industries Limited**, Bangalore (Managing Director, Indian Telephone Industries Limited) ; (v) **Hindustan Teleprinters Limited**, Madras (Managing Director, Hindustan Teleprinters Limited).

ORGANISATIONAL SET-UP—The Indian Posts and Telegraphs Department comes under the administrative control of the Government of India, in the Department of Communications. The Secretary of the Department holds charge of the office of the Director-General, Posts and Telegraphs as also that of the chairman of the Posts and Telegraphs Board. The P. & T. Board is responsible for the development, maintenance and expansion of Postal, Telegraph, Telephone and Wireless Communication. In addition, it discharges certain agency functions like the work of Post Office Savings Bank, issuing National Savings Certificates and Postal Life Insurance Policies, collection of Broadcasting Receiver License fees, Telephone Bills and Custom Duty on postal articles on behalf of other Departments of the Government.

Posts and Telegraphs Board—was established on December, 4, 1949. The Board has not only all administrative powers but also powers in matters of internal finance. It consists of a Chairman and 6 members—one each for Finance, Posts, Administration, Tele-communications Operations, Telecommunications Development, and Banking and Insurance.

ADMINISTRATIVE UNITS—For administrative convenience, the country has been divided into a number of territorial and functional units. There are at present 15 territorial units called P. & T. Circles, Viz., Andhra Pradesh, Assam, Bihar, Gujarat, Jammu & Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal. Functional Units consist of one Postal unit of Delhi and seven

Telephone Districts, one each at Bombay, Calcutta, Delhi, Madras, Hyderabad, Bangalore and Ahmedabad, in addition to the units for specific purposes.

TRAINING AND RESEARCH CENTRE—was opened at Saharanpur on April 2, 1951 to give intensive practical training to the operative staff. A Postal Training Centre was also started at Baroda on July 1, 1962, to impart training to candidates recruited for the electrical and allied cadres in the M. P., Maharashtra and Gujarat circles. A residential Postal Training Centre at Mysore was opened on April 20, 1965 and another at Darbhanga in July to cater to the eastern region.

SAVINGS BANK—Afford the following new facilities :—

- (i) An illiterate adult has given the operating on the account through a literate agent.
- (ii) A Security Deposit Account may be opened for the purpose of pledging the same as guarantee for purchase of motor vehicle.
- (iii) The limits of maximum balance for the purpose of accrual of interest were revised with effect from 1.7.1987 to Rs. 50,000 and Rs. 1,00,000 for individual and joint accounts respectively.
- (iv) A depositor has been permitted to withdraw any amount from his account at any time he desires without notice subject to availability of funds.

There are 1,44,084 post offices transact savings bank business.

A new series of certificates called 'Indira Vikas Patra' involving less documentation and a simpler procedure for encashment has been introduced from 19.11.86. The Saving Bank Organisation took another step forward with the introduction of Kisan Vikas Patra with effect from 1.4.88.

For the benefit of the Income-tax payers various National Savings Schemes were introduced. With effect from 1.4.87, a scheme was introduced where, the entire amount deposited in such an account, subject to a limit of Rs. 30,000 in the year 1987-88, is exempted from Income-tax under section 80-CCA of the Income Tax Act.

A new scheme called the P.O. Monthly Income Account Scheme has been introduced with effect from 15.8.89. The scheme is attractive for retiring persons, pensioners and other persons who desire to have regular monthly income. The scheme is open to individuals only. The minimum deposit is Rs. 5000 or multiples thereof subject to a maximum of Rs. 2 lakhs in a single account and Rs. 4 lakhs in a joint account. Maturity period is six years and interest at a rate of 12% is payable monthly.

POSTAL PROGRESS—(1) Urban Mobile Post Office Scheme is in operation at Nagpur, Madras, Delhi, Bombay, Calcutta, Ahmedabad, Kanpur and Bhalai on all days of the week including Sundays and holidays.

(2) An Inland Night Air Mail Service links up the principal cities of India, namely Bombay, Calcutta, Madras, Delhi and Nagpur. Under the all-up scheme inland letters, letter cards, post cards and money orders are normally carried by air without any air surcharge.

(3) Air Parcel Service with foreign countries.

(4) Facilities are available at most Post Offices for depositing Savings.

(5) Existing number of Night Offices is 143.

(6) No Postage for Blinds—with effect from Dec. 1, 1966 letters to or from blind persons in writing were exempted from postage, both in case of inland and foreign posts.

Speed post :

The Speed Post Service specially designed for the quick and reliable transmission of documents, sample and merchandise, offers a guaranteed time bound delivery. The speed post items are delivered within 24 hours to 72 hours as the case may be, from the latest hour fixed for booking. This service was introduced on 1st August, 1986 in seven cities namely Delhi, Bombay, Calcutta, Madras, Ahmedabad, Bangalore and Hyderabad. The service was later extended to 7 more cities i.e. Jaipur, Indore, Pune, Kanpur, Vadodara, Cochin and Guwahati. Now this service is available in 37 cities. The name of cities excluding the above 14 are as under:

Agartala, Silchar, Coimbatore, Vishakhapatnam, Nagpur, Imphal, Agra, Gwalior, Patna, Chandigarh, Srinagar, Shillong, Trivandrum, Trichy, Madurai, Salem, Tirupati, Vijaywada, Bhubaneswar, Cuttack and Mangalore.

To cater to the demands of peripheral and satellite towns of Industrial and commercial importance, extension counter facilities have also been provided in some of the towns.

An international Speed Post Service between India and U.K., U.S.A., F.R.G., Japan and Honkong was also inaugurated in 1986. Now the service is available to 20 countries.

During the year 1987-88, 941.3 million post cards, 899.2 millions letter Cards, 1527.1 letters, 338.1 packets, 58.0 parcels, 120.6 money orders, 239.5 Registered and insured packets were delivered. The number of letter Boxes installed in urban and rural areas are 4,81,757.

With the opening of a Post Office at Brahmopore Chaurasta in Sahabad district of Bihar on July, 1968 the number of post offices in India rose to 1,00,000.

There were 1,44,829 post offices in India in April 1988, of which 1,28,829 were in rural areas and 16,000 in urban areas.

There are 1053 Mail Motor Vehicles as on 31st March, 1988.

PIN CODE—Postal Index Number (PIN) Code was introduced in 1972 for efficient and correct handling of mail. The code has six digits. The first digit indicates the region, the second digit the sub-region and the first three digits taken together the central sorting district. The last three digits indicate a particular delivery post office in the area served by the sorting district.

POSTAL LIFE INSURANCE—The performance of Postal Life Insurance Scheme has shown a steady improvement during the year 1987-88. During the year 1987-88, 1,19,866 new policies were issued for a total sum assured of Rs. 232.9 crores.

The total number of Policies in force as on 31st March, 1988 was 13,61,532 and the total value of the business was Rs. 1439.3 crores.

The Balance of Postal Life Insurance Fund increased to Rs. 446.1 crores from Rs. 368.9 crores as on 31st March, 1988.

TELEGRAPH SERVICE—The telegraph service in India celebrate its centenary in November 1953.

Indian Telegraph is the oldest Government-owned public utility in the world.

There are over 37,892 Telegraph Offices in India at present.

TELEGRAPH SERVICE IN HINDI AND OTHER INDIAN LANGUAGES—was introduced in 1949. This facility is now available in 17,892 offices in the country. Telegraph can be sent in any Indian languages, provided they are written in Devnagari script.

GREETING TELEGRAMS—55.9 lakh greetings Telegrams were handled of which 1.5 lakh were deluxe telegrams.

SUPER TELEGRAPH SERVICE—The first "super express telegraph service" in India between Delhi and Bombay, was inaugurated in New Delhi on 23rd April, 1971. As the name indicates the telegrams goes to the other station almost instantaneously over a special circuit provided between the two stations.

PRINTOGRAM SERVICE—was introduced on 1st March, 1965, which is designed to provide a direct teleprinted service between the subscribers and the telegraphs office. Flash message was introduced in April 47 for the Press. These telegrams receive a higher priority.

Another class of telegram, known as Human Life Telegram, also receives priority in transmission over all express telegrams in the case of accidents, serious illness or death of a person.

PHOTO-TELEGRAMS—are accepted for U.K., U.S.A., Canada, Egypt, Australia, Finland, Sweden, Denmark, Belgium, Greece, Germany, Italy, Portugal, Switzerland, Norway, Japan, U.S.S.R. and France at special rates.

TELEGRAMS TO FOLLOW—has been introduced in the case of foreign telegrams, which enables the sender, who is not quite sure about the addressee will be found, to give various addresses at which the telegrams is to be successively presented.

DE-LUXE TELEGRAM—has been introduced in foreign countries.

PHONOGRAM SERVICE—By the introduction of this service, massage are booked through telephones and telegrams are dictated to the addresses over telephones.

AUTO-WORKING—Automatic pre-punching of tapes and transmitting them have been introduced in 31 circuits.

TELEX SERVICE—National Telex-Service was inaugurated on June 24, 1963. This is

the latest facility for speeding up communication within the country. Telex is the short name for teleprinter exchange. Teleprinters are machines by which telegraphic message are sent in a typed form making use of the telephone exchange system. With the help of the Telex, typed messages can be sent and received directly without intermediates or delay from one subscriber to another in any part of the country or even abroad. The subscriber are generally, newspapers, business houses or government offices. The first Devnagari telex service was inaugurated in New Delhi on 8th July, 1969. The number of Telex working connections rose to 37,321 at the end of March, 1987. There are 247 Telex Exchanges at present. Telex subscribers in 181 countries of the world are accessible to all subscribers connected to Indian Telex Network on fully automatic basis through Gatex.

TELEPHONES—Only 5 years after the invention of telephone by Bell in 1876, India had a 50 line telephone exchange in Calcutta in 1881. While India was almost one of the first countries in the world to have a telephone exchange, Calcutta was the first place to have it. Calcutta had the largest number of telephones in any single city in India. The first automatic telephone was installed in India at Simla with 700 lines in 1913. To facilitate telephone expansion "Own your telephone" scheme was introduced in December 1949.

There are 39.51 lakhs Direct exchange lines as on 31st March, 1988.

There were 13,092 Telephone Exchanges in India on 31st December, 1988.

Subscriber Trunk Dialling (STD) : There are 46 trunk automatic exchanges (TAX's) in the country at the end of March, 1988. The number of stations connected to the National Subscriber Dialling network through three TAX'S increased to 403. The total number STD routes on point to point basis were 226 at the end march, 1988. Fully automatic International Subscriber Dialling Telephone service is now available for 177 countries.

TELE-COMMUNICATION RESEARCH CENTRE—Set up in 1955-56, this Centre contributes on a large scale to the modernisation and expansion of the communication services in the country.

TELEPHONE INDUSTRY—Indian Telephone Industries Limited (See Index) was the first Public Sector Undertaking to be set up by the Government of India at Bangalore in the year 1950. The Company now operates through 6 manufacturing Units which are located at Bangalore, Palghat, Naini, Rae Bareilly, Srinagar and Mankapur. There is also an Installation and Maintenance Unit with the Head quarters at Bangalore. The authorised and paid-up share capital of the Company are Rs. 100 crores and Rs. 88 crores respectively.

I.T.I manufactures a wide range of telecommunication equipment viz. switching equipment of strowger, crossbar and electronic types telephone instruments of various types, transmission equipment like microwave equipment, coaxial equipment etc. In addition, the undertaking manufactures equipment required by Electricity Boards, Railways, Defence and other customers.

MAHANAGARTELEPHONE NIGAM LIMITED—was incorporated as a Government Public Limited Company on 28th February, 1986 by taking over charge of the Tele-Communication systems at the two Metropolitan cities Delhi and Bombay. The authorised and the paid up capital of the company is Rs. 800 crores and Rs. 600 crores respectively.

TELECOMMUNICATIONS CONSULTANTS (India) Ltd.—was set up as Public Sector Undertaking under the Department of Telecommunications in August, 1978 with a paid-up capital of Rs. 10 lacs for providing technical and management consultancy services in the field of Telecommunication. The company is playing an active role in the development of telecommunication system and computer services in African and Asian countries.

WIRELESS—India has a wireless communication system, which serves several useful purposes. Wireless stations maintain contact between fixed points as stand-by to telegraph system in the case of breakdown of the later. Stations at coastal places maintain contact with ships at sea and also aircraft flying over sea. Such stations have been established at Bombay, Calcutta, Madras and also at some minor ports. Meteorological stations, exchange weather data with ships and also with other countries. Three divisions with head-quarters at New Delhi, Pune and Calcutta are entrusted with the higher technical maintenance of

the wireless network. These Divisions work under the direct control of the Wireless Section of the Posts and Telegraphs Directorate.

The monitoring stations are equipped for the purpose of frequency management and licensing for obtaining information, for the clearance of interference and for finding new channels in the frequently spectrum. Presently the Monitoring Organisation has a network of 21 monitoring stations to monitor wireless transmission for providing required technical data and to investigate complaints of interference and suggest remedial measures.

HINDUSTHAN TELEPRINTS LIMITED, MADRAS—was registered as a Joint Stock Company on the 14th December, 1960, for the manufacture of teleprinters and ancillary equipment in technical collaboration with Messers Ing. C. Olivetti & Co. of Italy. The Company is being run as a limited company fully-owned by the Central Government, which have also granted loans to the Company.

OVERSEAS COMMUNICATIONS—The Overseas Communications Service which was nationalised in 1947, is responsible for the working of radio-telegraph, radio-telephone, radio-photo and telex service between India and other countries. The first electrical communication between India and a foreign country was established by an undersea cable connecting Bombay with London.

The overseas communications service is a separate department headed by a Director General with his headquarters at Bombay. The service with its four gateway Centre, viz., Bombay, Calcutta, New Delhi and Madras; handles submarine telegraph cable system from Bombay and Madras, and radio-telegraph and radio-telephone system for all the four centres. There are two international satellite communications Earth Stations, namely, Vikram Satellite Earth Station at Arvi near Pune and Ahmed Satellite Earth station at Dehradun operating with International Telecommunication Satellite Organisation (INTELSAT).

Other service such as news transmissions on behalf of the Government and leased circuits, have been available to 12 of the leading airline companies and other parties in India.

The following are the service carried on by the Overseas Communications Service—

(1) Radio-photo service; (2) Radio-telegraph service; (3) Radio-telephone service; (4) International Telex Service—This service enable the subscribers in India to exchange telegrams on teleprinter machines direct with the subscribers in other countries. It was introduced for the first time in India in June, 1960, linking the Bombay/Ahmedabad group of subscribers with London. Through these direct telex connections with international networks telex service is now available with 64 counter. (5) Press news cast service. (6) Submarine Cable Telegraph Service. (7) Wireless monitoring service at Bangalore, Calcutta, Delhi and Jabalpur. (8) Inland Photo-telegram service was inaugurated for the first time between Bombay and Delhi on January 26, 1955.

O.C.S. operates direct telephone links with 46 countries, telex links with 45 countries and message telegraphs links with 35 countries. Telephone, telex and telegraph service is being provided to almost all parts of the world by direct or transit service. Satellite telephone service is also available to ocean liners. International Subscriber Dialed (ISD) telephone service is available from all cities in India connected with the National Subscriber Dialling (NSD) networks to Austria, Australia, Belgium, Botswana, Bangladesh, Denmark, France, Finland, Italy, Japan, Hongkong, Kenya, Netherland, Nepal, Norway, Malayasia, U.K., U.S.A., U.S.S.R., Singapore, Sweden, Switzerland, Turkey, West germany, Zambia and Zimbabwe on round the clock basis. Fully automatic Subscriber Dialed Telex Service is available to 179 countries.

Through a network of satellite and high frequency radio circuits, the OCS provides telegraph service to almost all countries, telephone services to 193 countries, telex service to 193 countries and radiophoto to 52 countries.

SATELLITE COMMUNICATIONS—The overseas tele-communications traffic is at present handled on high-frequency radio system and low-capacity submarine cables. Recent developments in the technique of radio-communications have made communications through Space Satellite, a commercial proposition. Two Agreements establishing interim arrangements for Global Commercial Communications Satellite System were signed by a

number of countries. India signed these Agreements on the 19th February, 1965. The capital cost of the system would be approximately \$ 200 to 300 million, to be shared by the signatory Governments in proportion to the quotas assigned to them under the Agreements. India's share of the capital cost of the system had been fixed 0.5% of the total cost. The agreements are subject to approval by the Government of India.

India's first satellite communication earth station—Vikram Earth Station—established to cost about Rs. 600 lakhs, was ready for operation by the end of 1969. Situated at Arvi, about 18 miles from Pune, the station receives communications via satellites. The station at present is catering to India's overseas communication traffic and has about 50 channels working through the Indian Ocean Satellite.

The second satellite communication earth station extending over an area of 30 hectares, between Dehra Dun and Rishikesh in U.P., was completed and inaugurated in February, 1977. Initially direct satellite services were made available with France, U.K. and Japan through this station. The terminal building will house international telephone and telex exchange with provision for 80 telephone and 120 telex channels.

A 205-million dollar satellite designed to bring literacy to India was launched into space on 30 May, 1974 at the Kennedy Space Centre, Florida. In July 1975 the 150-kg spacecraft—the Applications Technology Satellite (ATS-F)—was shifted from its position over the Galapagos Islands to a point about 36,000 km over Kenya. From there ATS-F would beam educational programmes in regional languages to some 5000 villages in Bihar, Orissa, Madhya Pradesh, Karnataka and Rajasthan. ATS-F will remain in that position for one year.

Indian National Satellite System (INSAT-1A) was launched on 10 April, 1982 and placed in orbit position 740E Longitude. Indian Satellite System (INSAT-1B) would be placed in orbit position 940E Longitude.

International Maritime Satellite (INMARSAT) Project—The cost of the scheme INMARSAT Earth Station is Rs. 1000 lakhs. The land at New Bombay has been acquired for this purpose.

PHILATELIC PROGRAMME OF POSTAL DEPARTMENT—There is a philatelic Advisory Committee in Delhi, which advises the Post & Telegraphs Department for the issue of new stamps. A philatelic Museum has been set up by Post & Telegraphs Department. It houses Department's collection of rare stamps.

BROADCASTING

EARLY HISTORY—Organised broadcasting in India was started by a private concern, the Indian Broadcasting Company, at Bombay and Calcutta in 1927. During the partition of India in 1947, A.I.R. was left with six stations at Delhi, Bombay, Calcutta, Madras, Lucknow and Tiruchirappalli. At present Broadcasting falls within the direct control of the Ministry of Information and Broadcasting. The All India Radio Code which had since been in existence since 1967, was suspended in May 1976. It was resorted in April, 1977. The first step in this direction was taken when representatives of all recognised political parties were allowed to express their views over the mass media.

ORGANISATIONAL SET-UP—Broadcasting in India is the exclusive responsibility of the Central Government. All-India Radio is under the Ministry of Information and Broadcasting. It includes the experimental television set at Delhi, Bombay, Kanpur, Srinagar, Amritsar, Calcutta etc. The whole organisation is controlled by a Director-General assisted by several Deputy Director-Generals and Chief Engineers.

There is an Advisory Committee of members, nominated for two years to advise the ministry of Information and Broadcasting with the Minister as the Chairman. They meet once a year.

At present, A.I.R. has 98 Radio Stations supported by 139 medium wave transmitters and 40 short wave transmitters and are grouped into 4 zones. It serves 95 per cent of the population and about 86 per cent of the total area of the country. In his Home Service, AIR broadcast programmes in 21 major languages and 246 tribal and other dialects.

VIVIDH BHARATI—This programme, first introduced in 1967, is broadcast on medium

wave transmitters from 29 Vividh Bharati centres, including two short wave transmitters at Bombay and Madras. Twenty-eight of these carried commercial spots and sponsored programmes as well.

COMMERCIAL BROADCASTING—Advertisements have been introduced in A.I.R. from Nov. 1, 1967 on the three Vividh Bharati stations, at Bombay, Pune and Nagpur and from Oct. 15, 1968 on the Calcutta station. In April 1969 this service was extended to Delhi and Madras-Tiruchi. The service was extended to Chandigarh-Jullundur and Bangalore-Allahabad in Dec, 1970 and to Hyderabad-Vijaywada in March 1971. Commercial Programmes are now being broadcast from 29 of the Vividh Bharati centres.

YUVVANI—A new service from the Delhi station to cater exclusively to the needs of the being put out on an exclusive radio channel, the above programme of the Calcutta stations of the AIR was inaugurated on 6th Aug. 1970. It was introduced in Hyderabad in Dec, 1970. 74 centres of AIR now broadcast programmes for the youth.

A daily Sports Service for a duration of 85 minutes from the four zonal Stations of AIR viz. Delhi, Bombay, Calcutta and Madras was started from Nov. 19, 1972.

NATIONAL CHANNEL—was introduced on May 18, 1988. The National Channel is a comprehensive service to the listening public which aims to emphasise the national character and provided programmes of national relevance and significance.

LANGUAGES AND DIALECTS—The broadcasting system in India differs from most of the broadcasting system of the world in one important respect. AIR broadcasts its home programmes in a large number of languages. There are 5 major languages mentioned in the Indian Constitution. AIR broadcasts in all of them and in addition, in English and Dogri.

TRAINING FACILITIES FOR STAFF—A staff Training school has been set-up at New Delhi, which offers general as well as specialised courses to professional broadcasters as well as to the programme staff of AIR. It has branches at Hyderabad and Shillong.

An Engineering Staff Training School was set in 1958 to train new recruits who have sufficient practical and theoretical background of radio engineering and to provide refresher course to engineers who have spent considerable time on the practical side of AIR.

ADVISORY COMMITTEES AND PANELS—Various Advisory Committees have been continued by AIR with object of assisting the same in the planning and presentation of different categories of programmes. The Programmes Advisory Committee advises AIR on general principles of planning and presentation of Programmes. The Central Advisory Board of Music lays down the music policy for the guidance of AIR. The AIR Liaison committee maintains effective liaison with the radio trade and industry. A fourman committee of adviser had been appointed by AIR on June 15, 1965 to advise AIR on the selection, training and utilization of young talent for broadcasting commentaries on cricket matches. At the Stations there are (1) Programme, (2) Rural Advisory Committee, (3) Consultative Panels for Educational Broadcasts and Panels for University Programme, (4) Advisory Committee for Industrial and Tribal Programmes.

NEWS SERVICES—In its Home Services the AIR put out 81 bulletins for a duration of 11 hours 30 minutes daily in 19 Indian languages on the national hook-up and 124 bulletins for a duration of 16 hours 11 minutes daily in 23 languages and 33 tribal dialects in its regional services. Besides, 64 bulletins in 24 languages were put out from Delhi, Calcutta, Bombay and Madras for a duration of 8 hours 18 minutes daily in the External Services for listeners abroad. News Bulletins are put out daily in Bengali, Oriya, Tamil, Telegu, Kanada, Malayalam, Marathi, Gujarati, Assamese and Urdu, 3 times a day; in Kashmiri, Dogri, Punjabi and Sindhi twice a day; Gorkhali once a day. A Bulletin is also broadcast for troops in Hindi and Gorkhali once a day. Daily commentaries are also broadcast in Kashmiri, Urdu, Assamese and Bengali. Regional news Bulletins are now broadcast from 26 AIR Stations. The total duration of news bulletins is 36 hours a day. AIR now has 315 correspondents, of whom 7 are stationed in foreign countries. There are 39 Regional News Units.

EXTERNAL SERVICES—Programmes are broadcast in 24 languages round the clock

for listeners in Asia, Australia, New Zealand, Africa and Europe. Broadcasts for people of Indian origin abroad are directed to many parts of the world.

MONITORING SERVICES—These services keep the External Affairs, Defence and other Ministries of the Government of India posted with trends of foreign broadcasting from different radio stations of the world. Monitoring services located at Simla and the Monitoring Unit in Delhi cover 169 transmissions daily from 40 radio stations of the World in 14 different languages every day.

TRANSCRIPTION AND PROGRAMME EXCHANGE UNIT—This unit continues to supply to all Stations of AIR the selected recording and scripts thus, enabling them to give quality programmes at minimum cost.

EXTERNAL SERVICE DIVISION—Continues to broadcast programme round the clock in 23 languages. Out of these 16 (including English) are foreign languages and 7 Indian languages and the total duration of broadcast is over 72 hours and 55 minutes per day. The current in the domestic as well as the international field to stimulate interest in our art and culture, and to inform the outside world of new developments and changing conditions in India are broadcast.

JOURNALS AND PUBLICATIONS—Radio programme journals are published in English and in 7 regional languages, viz., Urdu, Assamese, Hindi, Bengali, Tamil, Telegu, and Gujarati for home listeners. For the listeners overseas one programme journal in English "India Calling" and ten foreign language folders are published.

RESEARCH—Research and Maintenance Departments are located in New Delhi with regional office in Bombay. The Research Department which was established in 1937 deals with all technical problems, concerning reception and transmissions. Ionosphere data are regularly compiled to explore frequencies which would give optimum reception to AIR's home as well as external broadcast. Fading and atmospheric which interfere with broadcast reception are also studies. The Research Unit pays special attention to the development of indigenous acoustic material and low-frequency absorbing systems for effecting improvements in AIR studies. The Department also maintains a field station at Todapur, near Delhi, where the frequencies of all-India Stations are constantly checked.

LISTENER RESEARCH UNIT—names comprehensive all-India study of listening to various news Bulletins broadcast from Delhi. The Research Department is responsible for the satisfactory working of the receiving Centre through which the performance of AIR Stations are watched.

AIR has set up a research organisation with headquarters in New Delhi to conduct surveys of the listening habits and programme performance of the people. The office is known as Directorate of listeners Research.

MAINTENANCE DEPARTMENT—is responsible for the maintenance and performance of service standards of the equipment used in AIR for the procurement and distribution of essential spares from abroad, for guidance on the technical problem of the Station in their day-to-day activities.

DOORDARSHAN—AIR's Television Service made a modest beginning at New Delhi on the 15th September, 1959. The Bombay Television station was on the AIR on October 2, 1972. The Srinagar, Amritsar and Poona stations were commissioned on January 26, Sept. 29 and Oct 2, 1973 respectively. The Calcutta and Madras stations were commissioned on 9th and 15th August, 1975, respectively. Television was separated from the AIR and made an independent organisation called Doordarshan on April, 1976. There are seven full fledged centres at Delhi, Bombay, Jullunder, Srinagar, Calcutta, Madras and Lucknow, 3 Base Production centres at Delhi, Cuttuck and Hyderabad, 7 on-going SITE transmitters at Hyderabad, Muzaffarpur, Sambalpur, Raipur, Gulbarga and Pij (Ahmedabad) and 4 relay centres at Mussourie, Kanpur, Pune and Amritsar.

Doordarshan now has 274 transmitters in the network, providing TV service to 83 p.c. of the population. At present all the transmitters set up under the Special Plan, relay programmes from Doordarshan Kendra, Delhi via INSAT-1B.

NATIONAL PROGRAMME—To keep the viewers informed about the cultural, social and economic progress in various parts of the country, it bring home the message of unity in diversity and promote a spirit of national integration in the country, a national programme was introduced for simultaneous telecast by all transmitters with effect from August 15, 1982. The Programmes are produced at various centres, and include items of national integration, communal harmony, family welfare, India's contributions, and India's struggle for independence as well as programmes on science and news and current affairs. A morning transmission has been started with effect from 23rd February, 1987, of a duration of 45 minutes, which contains among other programmes two news bulletins.

A significant development was transmission of teletext service (on Second Channel of Delhi during non-programme hours) in "Picture Mode" from 1st December, 1987 which enables the viewers to obtain the information on normal receiver without the aid of a decoder.

On 17th September, 1984, the Prime Minister, Mrs Indira Gandhi inaugurated the second TV channel of Doordarshan Kendra, Delhi. The Second Channel Service was introduced in Calcutta on 19th November 1987.

SPONSORED PROGRAMME—The programme was first introduced in the year 1984. A Selection Board was constituted to screen the 5,113 application that were received. This year showed the start of the Mahabharat. The Ramayana serial was also been telecast during the year. The other serials telecast during the year were "Chand Sitare", "Puraskar", "Kasauti", "Alpha Plus", "Quiz Time", "Zindagi", "Project Tiger", "Hakke Bakke", "Sunil Gavaskar Presents", and "Seoul Olympics", to name a few.

FILM AND FILM BASED PROGRAMMES—The telecast on the national network include Hindi feature film on Sunday, late-night movie on Friday, old-classics on 3rd Saturday of the month, regional films on Sunday afternoon and English/foreign language film on the first Saturday of the month. Doordarshan has also been telecasting Childrens' programmes and films on Sundays. "A" Category films are paid Rs. 5 lakhs, "B" Category films are paid Rs. 4 lakhs and "C" Category films are paid Rs. 3 lakhs. The fee for premier telecast of a feature film is Rs. 8 lakhs.

COMMERCIAL SERVICE—Doordarshan began to looking of advertisement with effect from 1st January, 1976. All the major kendras, namely, Delhi, Bombay, Calcutta, Madras, Bangalore, Hyderabad, Lucknow, Jalandhar, Srinagar and Guwahati have been booking the advertisements.

The revenues through commercials have been progressively increased as under :—

Year	Revenue Earnings (Gross)
1983-84	Rs. 19.79 crores
1984-85	Rs. 31.44 crores
1985-86	Rs. 60.20 crores
1986-87	Rs. 98.00 crores
1987-88	Rs. 136.30 crores
1988-89	Rs. 146.00 crores

The Plan Outlay provided for 1988-89 and the anticipated performance in financial terms is as follows :—

	Outlay	(Rs. in crores)
	1988-89	utilisation
1. Doordarshan	180.00	185.70
2. All India Radio	159.00	152.42
3. Information Media	6.00	3.20
4. Film Media	12.00	13.72
	<u>357.00</u>	<u>355.04</u>

Annual Plan 1989-90

	(Rs. in Crores)
1. Doordarshan	189.50
2. All India Radio	189.50
3. Information & Publicity	6.71
4. Film Media	12.29
Total	<u>398.00</u>

MINERALS

Mineral Resources—The mineral resources of India, encompass a sufficient range of products that are necessary to make a modern civilised country. Though there is a serious deficiency in some key minerals such as tungsten, tin, mercury, sulphur and petroleum in the basic metals—iron, manganese, aluminium, magnesium, chromium and in coal fuel, the country is well-supplied. India's resources in the highly strategic atomic minerals—uranium, thorium, zirconium and lithium—are sufficient. In the case of thorium, the reserves are of considerable magnitude. In uranium, enough reserve have been known to give present self-sufficiency for industrial power generation.

The reserves of all types of coal occurring in seams of 0.3 metre or more in thickness within the depth of 609 metres are estimated at 8,643 crores tonnes.

The iron ores reserves in India, assessed at one-fourth of the total world reserves, are estimated at 1,757 crores tonnes.

The potential oil-bearing areas in India aggregate about 10,35,920 sq. kms. This is tentative estimate.

Chromite occurs mainly in Bihar, Orissa, Karnataka, Tamil Nadu and Maharashtra. The total reserves, provided and probable, have been estimated at 48 lakh tonnes.

Lignite deposits in Tamil Nadu, Rajasthan, Gujarat and Kashmir are estimated at 213 crore tonnes.

Manganese deposits of India are estimated to be 11.65 crore tonnes, the third largest in the world.

The deposit of bauxite is widespread in India. Of the total estimated reserve of 131 million tonnes, 79 million tonnes are of the high grade bauxite.

Nickel ore deposits, estimated at about 15 million tonnes, were located in the Kansa East Block under the Sukinda Tehsil of Cuttack district in Orissa. Existence of nickel-bearing zones has also been indicated in Balarampur and Nawana sectors of the Mayurbhanj district in Orissa.

Other known mineral resources of India are—chromite: 11.12 crore tonnes, gold (ore): 87 lakh tonnes; ilmenite: 5.4 crore tonnes; gypsum: 124.86 crore tonnes. The proved reserved of gold ore in Kolar Goldfield of Karnataka are 37 lakh tonnes while these in Hutti Gold mines in Raichur district are 5 lakh tonnes, Gold occurs also at Ramgiri in Andhra Pradesh.

Among the refractories, there are deposits of 21 crores tonnes of magnesite; deposits of Kyanite, sillimanite and corundum also exist in different parts of the country.

A rich deposit of rock phosphate is located in as many as twelve places, from Ichagarh (about 6 miles from Jamshedpur) to Ghatsila in Bihar. The entire length of the rock phosphate deposit is about 42 miles in scattered way. Collectively these deposits are expected to go for a minimum period of 30 years.

As a result of the investigations conducted by the Geological Survey of India reserves of about 10.6 million tonnes of nickel in Orissa, 64 million tonnes of copper ore in Rakha mines-Roam-Sidheswar belt in Singhbhum district, Bihar and 5 million tonnes in Nalakunda and Dukunda blocks in Agnigundala belt, Andhra Pradesh, have been established. Sizeable deposits of bauxite, limestone, dolomite, iron ore, coal in Madhya Pradesh; clays and coal in West Bengal; Graphite, Kyanite and coal in Bihar; lead ore, manganese ore and chromite in Orissa and coal, limestone and lead-zinc in Andhra Pradesh have been located.

FOUR CATEGORIES OF MINERAL RESOURCES—The mineral resources of India

can be divided into four categories : (1) minerals of which India's exportable surplus can dominate world market, (2) minerals of which the exportable surplus forms an important factor, (3) minerals in which it appears that the country is at present self-sustaining and (4) minerals for which India has to depend largely or entirely of foreign imports. To the first category belonging iron ore, titanium ore and mica, while the exportable sulphur, under the second head includes manganese ores, bauxite, magnesite, refractory minerals, natural abrasives, steatite, silica, gypsum, monumental granites, monazite, corundum and cement materials. In a number of minerals, namely coal, aluminium or, mineral pigments, sodium salts and alkalis, rare earths, beryllium, glass, sand, nitrates, zircon and phosphates; the country is known to be self sufficient. And lastly, the following are the minerals for which it has to depend on imports : copper, silver, nickel, petroleum, sulphur, lead, zinc, tin, fluorides, tungsten, molybdenum, platinum, graphite, asphalt and potash.

GOVERNMENT DEPARTMENTS—Following is a detailed list of the subjects which are at present handled by the Department of Mines and Metals—

Administration of the following offices :

GEOLOGICAL SURVEY OF INDIA—with its headquarters at Calcutta it is responsible for the preparation of the map of India which forms the basis of all geological works. It is a large multi-disciplinary scientific organisation with country-wide coverage responsible primarily for geographical mapping, geo-physical surveys, minerals investigations, geo-technical investigations, offshore minerals exploration and study of marine geology, geothermal investigations etc. The Department has been reorganised on a regional basis. Three regional directors have been set up and functioning since 1961 : for the Eastern Region with headquarters at Calcutta, for the Northern Region with headquarters at Lucknow and for the Southern Region with headquarters at Hyderabad. Circle offices have also set up under the three regions in all the states.

CONTROLLER OF MINING LEASES—with its headquarters at Nagpur it deals with modification of pre-1949 mining leases in order to bring them in conformity with the provisions of the Mines and Minerals (Regulation and Development) Act, 1957.

NATIONAL MINERAL DEVELOPMENT CORPORATION LTD.—undertake the exploration of minerals in the public sector excluding oil and natural gas and coal.

MINERAL EXPLORATION CORPORATION—Set up on 21 Oct, 1972, in the public sector, it undertakes detailed mineral exploration, mines construction, geotechnical work and manufacture of accessories for drilling and mining equipment. The authorised share capital of the corporation is Rs. 25 crores. The corporation has its head office at Nagpur.

INDIAN BUREAU OF MINES—with its headquarters at Nagpur it functions as a body of expert advisers to the Government of India on all matters relating to mineral development. It is concerned primarily with the conservation and systematic development of mineral resources in the country. The Bureau is the chief national agency for discharging the various duties under the Mines and Minerals (Regulation and Development) Act, 1958. It inspects mines to effect general improvement in mining methods plans for the recovery of the largest possible quantity to conserve mineral wealth, eliminate waste in mining, processing and utilization, the modern methods of prospecting to locate mineral deposits.

MINERAL ADVISORY BOARD AND REGIONAL MINERAL ADVISORY COUNCILS—advise the Government on all matters concerning the mineral industry including the export and import tariffs on minerals and mineral products. They are working on Kiriburu Iron Ore Project, Panna Diamond Mining Project, Khetri Copper Project, Baliadila Iron Ore Project etc.

NEYVELI LIGNITE CORPORATION LTD.—envisages the mining of 3.5 million tonnes of lignite per annum, out of which 1.5 million are to be utilized in a thermal power station with an installed capacity of 25,000 kw.

COAL COUNCIL OF INDIA—helps the co-ordination of the programme of transport, coal and power training of technical personnel and prospecting and drilling from which coal will be raised in the Fourth Plan.

BHARAT ALUMINIUM CO. LTD.—was incorporated on 27th Nov, 1965, with the main objectives of constructing, operating and managing aluminium project. The authorised capital of the company is Rs. 175 crores.

NATIONAL ALUMINIUM CO. LTD.—was formed on Jan., 1981 with an authorised capital of Rs. 200 crores to implement Rs. 1242.4 crores alumina/aluminium project in Orissa.

HINDUSTHAN COPPER LTD.—was incorporated on 9 Nov, 1976. It is the sole producer of primary copper in the country.

HINDUSTAN ZINC LTD.—was incorporated in January 1966. The principal aims and objectives of this company are mining and smelting of lead-zinc metal and production of allied products. The authorised capital of the company is Rs. 125 crores.

BHARAT GOLD MINES LTD.—was incorporated in 1975 to own and manage the Kolar Gold fields. The authorised capital of the company is Rs. 25 crores.

CENTRAL LABORATORIES—There are three Central Laboratories—Petrological Laboratory for the identification of minerals and rocks, Palaeontological Laboratory for carrying research on vertebrate, and invertebrate fossils and Chemical Laboratory for carrying analytical experiments pertaining to various industrial materials, metallic minerals, water samples etc.

MINING EDUCATION—Indian School of Mines at Dhanbad, Bihar—foundation in 1926 which received University status in 1967 is the premier national institute imparting high-grade education (both at graduate and post-graduate level) in all aspects of mineral exploration, mining and petroleum engineering, and mineral beneficiation, as also in mining electronic and industrial management. The institute, which has very close interaction with the coal, mineral and petroleum industries, lays special on industrial orientation and carries multifarious researches on field problems.

Other major institution for imparting education in India are the Banaras Hindu University, Varanasi (U.P.). The Indian Institute of Technology, Kharagpur (W.B.) MBM Engg. College, Jodhpur (Rajasthan), Kothagudem School of Mining (A.P.) and Govt. College of Engg. & Technology, Raipur (M.P.)—in the State Sector.

In addition, diploma-level mining education is provided at ten polytechnics and institutes.

The total value of exports of minerals increased from Rs. 507 crores in 1984-85 to Rs. 625 crores in 1985-86. The total value of imports minerals increased from Rs. 599 crores in 1984-85 to Rs. 829 crores in 1985-86.

DESCRIPTION OF MINERALS

Coal—See Index.

MANGANESE—India ranks third in the world in the output of this mineral. The total estimated reserve of this mineral is 18 crore tonnes. It is used mainly in the steel and the chemical industry as well as in the making of dry cell batteries. Chief producing States are Madhya Pradesh, Gujarat and Maharashtra. The manganese mines of Madhya Pradesh, contain some of the best-known manganese ore deposits of the world. Deposits now being worked are in Singhbhum (Bihar), Panchmahals (Gujarat), Nagpur, Balaghat, Bhandara, Chhindwara, Indore, (M.P.), Visakhapatnam (A.P.), Sundar (Tamil Nadu), Shimoga (Karnataka), Bonai, Keonjhar, Korapur, Patna (Orissa) and Banawara (Rajasthan). Madhya Pradesh produces two third of the all India production.

LIGNITE—is soft brown type of coal. From it are obtain a number of valuable products, such as petroleum and Diesel oils, waxes and hydrocarbon gases. Lignite quarry is suitable at Neyveli in south Arcot district of Tamil Nadu. Lignite is also found in Rajasthan, Gujarat and Kashmir.

THE INTEGRATED NEYVELI PROJECT—envisaged the mining of 3.56 million tonnes of lignite per annum to be utilised for the generation of thermal power, production of nitrogenous fertilizers in the form of urea and manufacture of carbonised lignite briquettes for use of domestic and industrial fuel.

GOLD—is mainly mined in Kolar in Karnataka State, from where 65 p.c. of India's gold comes. India's production of gold is only about 2. p.c. of the total world production (excluding USSR). Gold bearing veins are also known to exist in Anantapur District of

Andhra Pradesh, at Wynaad in Tamil Nadu and Lohia in Manbhum district of Bihar. Alluvial gold is widely distributed in many parts of the country—Assam, Bihar, Kashmir, Madhya Pradesh, Orissa, Punjab, Uttar Pradesh and West Bengal.

MICA—Mica has been used in India since a long time past. The important use was in Ayurveda. There are three mica belts in India, 3,380 sq.km. in Bihar, 3,110 sq.km. in Rajasthan, 1,550 sq.km. in Andhra Pradesh. India supplies about 80 p.c. of the world's requirements of sheet mica.

PETROLEUM—See index.

SALT—With a coast-line of about 5,690 km, inland sources in Rajasthan and Little Rann of Kutch and the rock salt mines in Mandi, India has possibilities of attaining a high position among the salt-producing countries of the world. India now claims to be self-sufficient in all qualities of salt, with the exception of rock variety. Salt is produced by solar evaporation on almost all the coasts of India, but particularly on the south-west and near Bombay. The principal salt-producing areas are located in Saurashtra, Tamil Nadu, Maharashtra, Rajasthan, Kutch, Kerala, Andhra Pradesh and Orissa. The only one source of rock salt is at Mandi in Himachal Pradesh which produces annually one lakh maunds of crude rock salt. Beside the existing Salt Research Institute was established in 1954 at Bhavnagar in Saurashtra. The principal centres of Salt manufacture are as follows: (1) Marine Salt Works at (a) Saurashtra and Kutch (Bhavnagar, Jaffrabad, Jamnagar, Lavanpur, Porbandar, Bharai and Kandla), (b) Maharashtra (Dharaana, Bhoyandar, Bhandup, Uran and Mithapur), (c) Tamil Nadu (Nanpada, Pennukunduru, Madras, Cuddalore, Adirampatnam and Tuticorin), (d) Orissa (Puri, Huma, Gokhurkunu and Sumadi), (e) West Bengal (Contai), (f) Kerala—along the coast; (2) Salt Mines at Mandi (Himachal Pradesh); (3) Inland Sources—(a) Rajasthan (Sambhar, Didwana and Pachbhadra), (b) Bombay and Saurashtra (Kharagoda and Kuda) and (c) Rann of Kutch.

ILMENITE—India is now the world's leading producer of this metal. It is whitest of all substances and will replace lead more and more in the manufacture of white pigment. It occurs along the beach of sands on the eastern and western coasts of India. The total reserves are estimated at 3,500 lakh tonnes.

MONAZITE—is available in Kerala and Coromondal coasts existing in the form of beach-sands in association with ilmenite and is perhaps the largest and richest in thorium in the world. It also contains a small quantity of uranium. The total reserves of monazite are estimated at some 5 million tonnes.

In order to conserve supplies for atomic energy development, its exports are now prohibited under sec. 3 of the Atomic Energy Act, 1948. A factory for processing over 1,500 tonnes a year of monazite beach-sands, has been set up by the Government of India at Alwaye (Kerala).

ORCHES—are well known as mineral earth pigments. Occurrences are fairly widespread in India; producing areas are Madhya Pradesh, Vindhya Pradesh and Saurashtra regions. The entire production is retained for internal consumption.

SALTPETRE—occurs as natural efflorescence in extensive area in Bihar, U.P., and Panjab, crude saltpetre is used as a manure, while refined saltpetre is consumed in the manufacture of fireworks, blasting-powder, scraps and matches and in glass ceramic and tanning industries.

ZIRCON—This rare metal has come into prominence very lately for use in atomic energy and in alloy metallurgy. The main sources of the mineral zircon is found associated with ilmenite beach-sands on Malabar and Coromandal coasts.

ZINC—Zawar mines in Rajasthan and south Arcot district of Tamil Nadu are the most important sources of zinc ore in India, which are being worked to meet much of her needs in the near future. India's resources are, however, poor.

BERYL—India is a large producer of beryl, chiefly found in Rajasthan, Tamil Nadu, Kashmir and Bihar.

CHROMITE—is found mainly in Bihar, Tamil Nadu, Maharashtra, Karnataka and Orissa.

DOLOMITE—This is available in large quantities from Birmitrapur and Panposh areas in Sundergarh district of Orissa, where 90 p.c. of the mineral is produced. Other main producing States are Bihar and Madhya Pradesh. Deposits of dolomite of useful quality, used in the Steel

melting industry have been discovered near Bari village in Mirzapur district of U.P.

MAGNESITE—India's magnesite deposits are in Bihar (Singbhum), Kashmir, Tamil Nadu (Salem), Karnataka, Rajasthan and U.P. (Almora). By far the largest and the best magnesite deposits in India are found in the Salem district of Tamil Nadu.

BAUXITE—The bauxite reserves and potential resources in India constitute 1/60 of the total world resources. The most extensive deposits of bauxite are found in widely separated areas, such as Bihar, Gujarat, Jammu & Kashmir, Madhya Pradesh, Tamil Nadu, Karnataka and Orissa, although the producing fields are restricted to Ranchi (Lohardaga), in Bihar, Jabalpur (Katni) in Madhya Pradesh, Salem in Tamil Nadu, Belgaun in Karnataka.

CEMENT—The ingredients of cement are all available in abundance in India. The principal cement-producing centres are Porbandar in Gujrat, Lakheri in Rajasthan, Jabalpur and Katni in M.P. Guntur in Andhra Pradesh etc.

KYANITE—Perhaps the largest deposits of kyanite in the world are found in India. Good workable deposits of kyanite occur in Mayurbhanj and Kharswan in Singbhum district of Bihar and smaller deposits in Mayurbhanj district of Orissa, in Nellore district of Andhra Pradesh and Hasan district of Karnataka. The Lapsa Baru deposit of Kharswan (Bihar) is the largest in the world and is the principal centre of production.

FELSPAR—Workable deposits of felspar are located in Bihar, Maharashtra, M.P., Tamil Nadu, Karnataka, Rajasthan and W. Bengal. The entire output is utilised mainly in the ceramic industry.

COPPER—There are important copper belts in India, namely, Singbhum in Bihar and Khetri and Daribo in Rajasthan. Singbhum copper belt is the principal source at present. Reserves of 3.56 crore tonnes with 1 p.c. content have been found in Khetri area, while probable reserves with 0.8 p.c. copper content and above have been estimated in Singbhum. Besides, reserves of copper ore probable in Sikkim are being worked. The reserves of copper had been estimated at 562,000 tonnes, the average grade of ore was estimated to contain 2.46 p.c.

LIMESTONE—is used principally in the manufacture of cement. It is found in Rhotasgarh in Sahabad district of Bihar, at Katni in M.P. at Bundi, Jodhpur and Shirohi in Rajasthan, in Rewah and Mahiar of Madhya Pradesh. The known deposits of limestone are estimated at 500 crore tonnes.

TUNGSTEN—Tungsten ore are found in Jodhpur and Bikaner, but the reserves of this ore are small, calculated to be able to supply local needs of ferrotungsten alloy industry.

BENTONITE—is a valuable clay similar in the properties to Fuller's Earth. It is found in limited quantities in Bihar, Kashmir and Rajasthan.

GYP SUM—its importance lies in its use as a raw material in the manufacture of ammonium sulphate. Rajasthan contains largest reserves of 92 crore tonnes of gypsum out of the country's total reserves of 98 crore tonnes. Other States where it is found are Tamil Nadu, Jammu & Kashmir and U.P.

APATITE—is one of the non-ferrous minerals of India. Reserves of apatite-bearing rocks are placed at 7 lakh tonnes in Bihar, 80 lakh tonnes in Tamil Nadu and 1.6 lakh tonnes in Andhra Pradesh.

SULPHUR—The country has no sizeable source of native sulphur, but ores of base metals are mostly sulphates and a large amount of sulphur is released as by-product in their treatment in metallurgical works, which could be collected. The present production of sulphur in India is almost negligible, the country depending mostly on imports.

STEATITE—is also known as soap-stone, talc and its powdered form as French chalk. It is one of the most variously used industrial minerals. It is available in Tamil Nadu and Rajasthan.

VANADIUM—There are large reserves of Vanadium-bearing titani-ferrous iron ores in Singbhum and Mayurbhanj districts.

SILIMANITE—is a mineral used in the manufacture of furnace lining in the iron and steel, and glass and ceramic industries. It is almost a monopoly of India. Deposits of silimanite are known to occur in Kerala, Madhya Pradesh and Karnataka. The world's largest concentration of silimanite occurs in the Khasi Hills.

CORUNDUM—is found in Assam, Madhya Pradesh, Karnataka and Rajasthan, the reserves in Madhya Pradesh alone being of the order of 4 lakh tonnes, including one tonne of high grade mineral.

FULLER'S EARTH—is chiefly obtained from Bikaner and Jodhpur in Rajasthan and a little also from M.P. Entire production is used for internal consumption.

GRAPHITE—occurs in small quantities in various parts of India, namely, Ajmer, Hyderabad, Kerala, Madhya Pradesh, Tamil Nadu, Karnataka and Orissa. The mineral is mainly used in foundry and in pencil and paint industries in India.

ANTIMONY—There are small deposits of antimony in Lahaul in Kangra district of Punjab. The Star Metal Refinery continues to be the only manufacturer of antimony in the country.

CALCITE—Calcite deposits are found in Nawanagar, Porbandar, Junagarh and Amreli in Saurashtra. The most important of the deposits are found in Amreli. It is used for the manufacture of Calcium carbide, bleaching powder, as flux in metallurgical operation, for imparting glaze on pottery and making industrial lime.

LEAD—India contributes about 0.2 p.c. of the estimated world output of lead ore. Lead deposits now being exploited in India, are located at Zawar in Udaipur and at the Banjavi mines in Jaipur. The commercial production of lead ingot was taken up first by the Metal Corpn. of India Ltd., in 1942-43. The manufacture lead ingot at its smelter at Tundoo, near Dhanbad in Bihar. Lead deposits are located in Palamau district of Bihar.

TITANIUM—The most important deposits of titanium minerals works in India lie in Kerala in five stretches on the south west coast—Nindaka (north of Quilon), Anjengo Vakala (south of Quilon), Kovalam (south of Trivandrum) and Cape Comorin Liparum (on the eastern coast of Tirunelveli district).

ASBESTOS—India has a limited resources of asbestos, mainly in Andhra Pradesh, Bihar, Karnataka and Rajasthan. Of the two chief varieties found in India, the chrysolite asbestos, which is the flexible variety amenable in spinning and hence more valuable is found in Cuddapah (A.P.) while deposits yield the tremolite type, which is less flexible.

BARYTES—This minerals is used mainly in paint and petroleum industries in India. Deposits of barytes occur in Tamil Nadu, U.P., Rajasthan and in Anantpura and Cuddapah district of Andhra Pradesh.

THORIUM—India's reserves of thorium, a potential atomic fuel, are on a scale of world importance. The known reserves of this metal in the coastal sand deposits are estimated at nearly half-a-million tonnes of thorium oxide. The source of this atomic metal is the mineral monazite which occurs in the ilmenite sands on Kerala and Tamil Nadu coasts and in parts of Hazaribagh plateau in Bihar.

URANIUM—Several deposits of this mineral have been located in different parts of the country, the major deposits being those at Jadugada, Narwapahar and Bhatin in the Singhbhum Copper Belt of Bihar. Indication of Uranium located in Himalayan region of Kulu, Rampur-Mashahr and Garhwal are under investigations.

PRECIOUS STONES—Actual diamond mines are Panna (Madhya Pradesh) over an area of 750 sq. miles. Sapphires of a very clear blue colour are found in Barwar in Kishengarh and the adjoining tracks of Jaipur (Rajasthan). Emeralds are obtained from Udaipur and Ajmer (Rajasthan).

IRON & STEEL

IRON RESERVES IN INDIA—The iron ore reserves in India assessed at one-fourth of the total reserves, are estimated at 2,100 crores tonnes. There are four different kinds of ore in India, i.e., magnetite, laterite, alloy iron stone and haematite. The most important of these, haematite deposits are worked from the Singhbhum and the Orissa fields known as the Iron Belt of India. Magnetite ores occur in Bihar, Himachal Pradesh, Tamil Nadu, Karnataka and Orissa. Rich deposits of iron ore have been discovered in Chanderdinga in Goalpara district and Hamid near Boko in Kamrup district of Assam.

India's proven resources of iron ore high grade content at 19,264 million tonnes are the second largest in the world. In addition, the reserves of low-grade ores which are estimated at four times this quantity.

Currently per capita steel consumption in India, taking into account domestic output and imports, is 11 kilograms (approximately 24.3 lbs.). This is one of the lowest in the world. Today there are 6 steel plants—1 in the private sector and 5 in the public sector—altogether producing about 12 million tonnes of finished steel. The share of each sector is nearly equal.

The production of iron ore during 1988 is estimated at 52.3 million tonnes and the despatches at 19.6 million tonnes. During April 1988 to November, 1988, the Steel Plants of SAIL consumed 4.9 million tonnes of iron ore lumps, 4.7 million tonnes of iron ore fines and 5.2 million tonnes of sinters.

The productions of manganese ore during 1988 is estimated at 1.32 million tonnes and despatches are 9.33 lakh tonnes. The consumption of manganese ore by the steel plants during 1988-89 is estimated at 5.87 lakh tonnes.

The production of chromite during 1988 was 7.6 lakh tonnes.

DEPARTMENTAL SET-UP—Consequent on the reorganisation of certain Ministries in May, 1971, Department of Steel under the Ministry of Steel and Mines deals with the Iron and Steel (Control) Order, 1956. Import and Export of Iron and Steel, the Steel Industry both in public and private sector, including re-rolling mills and the ferro-industry and the establishment of new steel plants in the public sector. In addition, the following sixteen public sector undertaking function under the administrative control, of the Ministry:—(i) Steel Authority of India Ltd., New Delhi; (ii) Metallurgical & Engineering Consultants (India) Ltd., Ranchi; (iii) National Mineral Development Corporation, Hyderabad, (iv) Bharat Refractories Ltd., Bokaro Steel City. (v) Kudremukh Iron Ore Co. Ltd. Bangalore; (vi) Mangalore Ore (India) Ltd., Nagpur; (vii) Hindustan Steel Works Construction Ltd. Calcutta. (viii) Sponge Iron India Ltd., Hyderabad. (ix) Rashtriya Ispat Nigam Ltd., Visakhapatnam. (x) Neelachal Ispat Nigam Ltd., Bhubaneswar. (xi) Metal Scrap Trade Corporation, Calcutta. (xii) Vijaynagar Steel Ltd., Bangalore. (xiii) Ferro Scrap Nigam Ltd., Bhilai. (xiv) India Fire Bricks & Insulation Co. Ltd., Bihar. (xv) Indian Iron & Steel Co. Ltd., Burnpur. (xvi) IISCO Station Pipe and Foundry Co. Ltd., Calcutta.

STEEL AUTHORITY OF INDIA (SAIL)—Steel Authority of India Limited (SAIL) is a company registered under Indian Companies Act, 1956 and is wholly owned enterprise of the Government of India. It operates and manages five integrated steel plants at Bhilai (Madhya Pradesh), Bokaro (Bihar), Durgapur (West Bengal), Rourkela (Orissa) and Burnpur (West Bengal), a plant of the Indian Iron & Steel Company Limited, a wholly owned subsidiary of SAIL and two special and alloy steels plants at Durgapur (West Bengal) and Salem (Tamil Nadu). In addition SAIL has Research & Development Centre for Iron & Steel, Centre for Engineering & Technology and Centre for Raw materials & Mines at Ranchi. Maharashtra Elektrosmet Limited, a ferro-manganese and special steels producing plant at Chandrapur (Maharashtra) and IISCO-Ujjain Pipe & Foundry Company Limited, a subsidiary of IISCO, producing cast iron spun pipes at its works at Ujjain (Madhya Pradesh) are also subsidiaries of SAIL. Marketing of products from SAIL plants is done through the Central Marketing Organisation at Calcutta which has a country-wide distribution net work.

The authorised capital of SAIL is Rs. 5,000 crores. The paid up share capital of SAIL 3963.48 crores.

SAIL will also act as a nominee of all public sector institutions having shares in the private sector steel plants and in mining companies and mini steel plants and co-ordinate their operation and development in public interest.

The Ministry of Steel & Mines has one attached office, that of the Iron and Steel Controller with the head office at Calcutta and regional offices at Bombay, Madras and Faridabad. He is responsible for the administration of the Iron and Steel (Control) Order, 1956, issue of licences for the import/export of iron and steel and for the bulk purchase of steel. It also indulges in the planning of rolling programmes on the main products of steel

in respect of controlled and decontrolled items of iron and steel. The Technical Wings of the Iron & Steel Controller's office renders advice to the Iron & Steel Controller with regard to production and distribution of indigeneous steel and issue of essentiality certificates for import of raw materials, equipments, components and spares for the operation and maintenance of secondary steel producing units etc.

THE METAL SCRAP TRADING CORPORATION—was formed to develop the export possibilities of ferrous scrap after catering to the requirements of indigeneous furnaces. The Board of Directors of this Corporation includes 6 representatives of Domestic Consumers of Scrap, 6 of Scrap Exporters and 6 of the Minerals and Metals Trading Corporation.

A Steel Export Association has been registered to encourage and assist exports of steel. The Association includes 2 representatives of the Government, 1 representative of the Joint Plant Committee, 1 representative of the Steel-Re-rolling Mills Association, 3 representatives of the Main Producers, 3 representatives of exporting firms and 2 representatives of billet re-rollers.

A "Planning cell" has been constituted in the Ministry of Steel and Mines to chalk out long-term plans for the development of steel and mining industries. It works in co-operation with the Planning Commission, the Hindusthan Steel, the Coal Development Corporation, The Mineral Development Corporation, the National Mineral Laboratory, the CSIR, the Fuel Research Laboratory, and other specialised organisations. The cell assesses the range of price of coal in the coming decade or two so that the development in this industry is not inhibited either for want of capital. Among its other activities are to improve the technological knowhow so that the Indian steel production can keep pace with the latest improvements in other countries.

An Iron and Steel Advisory Council was constituted in November, 1959, to advise the Government on all matters of general character relating to iron and steel and in particular to problems pertaining to production, distribution, transport, research, import and export.

STEEL BANK—To increase Steel participation in foreign trade, the Government has decided to set up a "Steel Bank" which will make available from its ready stock, the requirements of units both in the public and private sectors.

UNITS IN THE PRIVATE SECTOR

TATA IRON AND STEEL CO. LTD.—Tata plant is the oldest in India. It is situated at Jamshedpur, 156 miles from Calcutta. Its present installed capacity is 2.16 million tonnes of ingot steel and 2.7 million tonnes of saleable steel per annum. Tatas have also undertaken some ancillary works, such as, a new ferro-manganese plant at Joda, new refractory plant at Joda, a new refractory plant at Belpahar in collaboration with Didier International, a ferro-sulphate washing plant and a plant for the recovery of scrap iron from slag by Hickett process.

UNITS IN THE PUBLIC SECTOR

PUBLIC SECTOR STEEL PLANTS—Five integrated iron and steel plants in the public sector, with estimated capacity of 10 lakh tonnes each, have been set up at Rourkela, Bhilai, Durgapur, Bokaro and Visakhapatnam. The sixth integrated steel plant of Rashtriya Ispat Nigam Limited at Visakhapatnam is under construction (see Index).

A construction company was set up in the public sector in June 1964, under the name Hindusthan Steel Works Construction Ltd., with present authorised capital of Rs. 20 crores. The object was to develop and centralise the construction of steel plant. To start with, the HSWC is undertaking the construction of Bokaro Steel Plant.

The present capacity in the public sector 2.5 million tones at Bhilai, 1.7 million tonnes at Rourkela and 1.6 million tonnes at Durgapur. The total outlay on all the existing steel plants in the public sector is Rs. 1,053 crores.

ROURKELA—is the first of the three Government steel projects to take shape. The unique feature about this plant is that 75p.c. of the steel is made by the new L.D. process. This process consists in blowing oxygen at high pressure into molten iron in special vessels called 'Convertors'. This L.D. process results of large quantities of nitrogen as by products. The first ingot in the Public Sector was produced on April 30, 1959.

BHILAI—In collaboration with the Russian Government a second steel factory was

started at Bhilai. The main units of the Bhilai works consists of—(1) Iron making, (2) Steel making and (3) Rolling mills.

The capacity envisaged in 1 million tonnes ingot for 7.7 lakh tonnes of pig iron for sale. the production of pig iron at Bhilai was inaugurated on February 4, 1959, that of steel at Bhilai was inaugurated on October 12, 1959. The seventh coke oven battery (65 ovens), has recently been commissioned marking the completion of the sixth blast furnace complex. Built at a cost of Rs. 8.50 crores, the coke oven battery will yield 458,680 tonnes of coke annually.

DURGAPUR—is the third Steel Plant in the public sector, which was completed in August, 1962.

MYSORE IRON AND STEEL LTD.—was registered in 1961 and took over the management of the Mysore Iron Works on 1st April, 1962. Its paid up equity capital at present is Rs. 21.72 crores.

The Union Government has sanctioned the scheme for establishing a third electric pig iron furnace at the Mysore Iron and Steel Works. This scheme will cost about 2.5 crores. When the furnace is installed, pig iron production is expected to increase from 80,000 tonnes to 2 lakh tonnes annually. This expansion was necessitated by the increase in mild steel production.

BOKARO—In co-operation with the U.S.S.R. has been constructed an integrated iron and steel plant at Bokaro.

The Bokaro Steel Plant is the sixth major plant in India and the fourth in the public sector. The steel plant will have initial capacity of 1.7 million ingot tonnes of steel, which will be rolled into about 1,364 million tonnes of finished steel products such as plates, sheets and coils. Besides these flat steel products, Bokaro will produce, in the first stage, 2,80,000 tonnes of pig iron. Necessary built-in-capacity is being provided in the different unit for expansion of the plant's capacity to 4 million tonnes of steel ingot in the second stage and further expansion to 5.5 million tonnes later. The Soviet Government has extended a credit of 200 million roubles (Rs.167 crores) for meeting foreign exchange cost of the first stage.

THE INDIAN IRON AND STEEL CO. LTD.—The Indian Iron & Steel Company Limited (IISCO), one of the oldest iron and steel manufacturing companies in the country, owns and operates an integrated steel plant Burnpur, captive iron ore mines at Gura and Manoharpur, captive collieries at Chasnala, Jitpur and Ramnagore, a coal washery at Chasnala and large foundry complex at Kulti. The management of IISCO was taken over by Central Government on 14th July, 1972 and shares held by the private parties were acquired by Central Government on 17th July, 1976. The shares held by the public financial institutions etc.were also purchased by Central Government and transferred to Steel Authority of India Limited (SAIL) and IISCO became a wholly-owned subsidiary of SAIL on 30th March, 1979. Its present installed capacity is 1 million tonnes ingot steel.

NEW STEEL LIMITED—In recent years the Government has decided to set up special plant at Salem in Tamil Nadu, and two integrated steel plants, one each at Hospet in Mysore and Visakhapatnam in Andhra Pradesh.

BOLANI ORES LIMITED—To supply iron ore to Durgapur Steel Plants a mine has been developed at Bolani in the Gura region of Orissa, where ore deposits are extensive and rich. For the developed and operation of the mine, a company called Bolani Ores Limited was set up in June, 1957 jointly by the Government of India and Orissa Mineral Development company with 50.5 and 49.5 per cent shares respectively.

ALLOY STEELS—Alloy steel in very broad sense connotes steel to which one or more alloying elements have been deliberately added with the object of imparting superior, mechanical and physical properties.

India's first alloy and special steel plant in the public sector was commissioned in Durgapur on January 23, 1956.

VISVESVARYA IRON & STEEL LTD, BHADRABATI—The Visvesvarya Iron and Steel Limited (VISL) is a major producer of special and alloy steels with a capacity of 77,000 tonnes per annum. In addition, to special steels, it produces Mild Steels, Ferro Alloys, Castings Pig Iron etc.

As on 1.4.1988 the authorised capital of the Company was Rs. 75 crores of which Rs. 46.40 crores were subscribed and paid up. 60% of the paid up capital i.e. Rs. 27.84 crores was held by the Government of Karnataka and 40% i.e. Rs. 18.56 crores by the Steel Authority of India Ltd.

SPONGE IRON INDIA LIMITED.—was initially set up with an annual capacity of producing 30,000 tonnes of sponge iron suitable for making steel in Electric Arc Furnaces from lump iron ore and non-coking coal available in the country. The capacity was then increased to 60,000 tonnes. The plant went into regular production from November, 1980. The authorised capital of the company is Rs. 13 crores as on 31st March, 1988.

KUDERMUKH IRON ORE COMPANY LTD.—The Kudermukh Iron Ore Company Limited (KIOCL) was established in April, 1976 for the management of the Kudermukh Iron Ore Project. The Project was implemented on the basis of a Financial Agreement and a Sale & Purchase Contract with Iran concluded in November, 1975, and had an annual capacity of 7.5 million tonnes of iron ore concentrate. The Sale & Purchase Contract stipulated that Iran would purchase 150 million tonnes of iron ore concentrate from this Project over a period of 21 years commencing from August, 1980. Under the Financial Agreement, Iran agreed to extend a loan not exceeding US\$ 630 million to meet the cost of the project and related infrastructure. Against this promised loan, Iran paid only US\$ 255 million and then stopped further disbursements. Iran failed to fulfil their obligations under both agreements in that they have not paid the balance amount of the loan and have also indicated their inability to lift the contracted quantity of the concentrate. However, the project was completed in August, 1980, as per schedule with the required funds provided by Government, and KIOCL started locating alternate buyers for the sale of concentrate. The total expenditure incurred on the project was nearly Rs. 517 crores.

The authorised capital of the company is Rs. 675 crores.

MANGANESE ORE (INDIA) LTD.—was formed in 1962 to take over the manganese leases in Madhya Pradesh and Maharashtra, previously held by Central Provinces Manganese Ore Company Ltd., (CPMO) a foreign Company registered in U.K. In MOIL 49% shares were held by CPMO and the remaining 51% in equal proportion by Government of India and State Governments of Madhya Pradesh and Maharashtra. Under an agreement signed between Governments of India and CPMO in sept. 1977, the Ordinary and Preference shares held by CPMO in MOIL were acquired by Government of India and with that, MOIL became wholly owned Government Company with effect from October, 1977.

The authorised capital of the Company is Rs. 17 crores and the paid up capital was Rs. 11.06 crores as on 31st December, 1988.

BHARAT REFRACTORIES LTD.—was registered as a Company on July 22, 1974 as subsidiary of Bokaro Steel Limited with only one unit located at Bhandaridah. It was restructured with effect from May 1, 1978. As result of the restructuring of the Public Sector Iron & Steel Industry, Ranchi Road Refractories Plant at Ramgarh along with its captive sillimanite mines in Meghalaya and Bhilai Refractories plant in Madhya Pradesh were brought under control of Bharat Refractories Limited (BRL). India Firebricks and Insulation Company Ltd. (IFICO) which was subsidiary of SAIL was made a subsidiary of BRL with effect from 1.5.1978.

The authorised share capital of the Company is Rs. 40 crores against which the paid up capital as on 31st December, 1988 is Rs. 39.51 crores.

FERROSCRAPNIGAM LTD.—is a joint sector company under Ministry of Steel & Mines with a paid-up capital of Rs. 200 lakhs, in which the Metal Scrap Trade Corporation Limited (MSTC) holds 60% of the equity shares and the remaining 40% being held by M/s Harsco Corporation Inc. USA. The Company undertakes recovery and re-processing of scrap from slag and refuse dumps in the Steel Plants in Rourkela, Burnpur, Bhilai and Bokaro Steel Plants.

PRODUCTION OF STEEL—The production of saleable steel in the five integrated plants of Steel Authority of India Ltd. (SAIL) was 5.22 million tonnes during the period April, 1988 to December, 1988 as compared to 4.63 million tonnes during the corresponding period of the year 1987-88 thereby indicating a growth rate of about 13%. SAIL has planned to produce 7.36 million tonnes of saleable steel during 1988-89 as against about 6.67 million

tonnes produced in 1987-88. In addition to this, TISCO is expected to produce about 1.92 million tonnes saleable steel and another 3.00 million tonnes is expected to be produced by electric furnaces in the secondary sector. Thus the total steel production during the years is likely to be 12.28 million tonnes.

COAL

COALFIELDS IN INDIA—Coal mining in India was first started in Raniganj, Bengal in 1814. The principal users of coal in India are the Railways, the thermal power stations and a large number of industries including iron and steel, cement, refractories and glass, textiles, paper and board, sugar and chemicals. It is also required for bunkering and export, brick kilns, for domestic use and by the collieries themselves.

In India, coal occurs mainly in formation of Gondwana and Tertiary ages. The reserves of coal occurring in seams of 0.5 metres or more thickness down to the depth of 1200 metres are estimated at 170 billion tonnes. Rich deposits (about 11 crore tonnes) of coal with high coking index have been discovered at Chano Rikba of North Karanpur Coalfield. New seams have also been discovered in Singrauli, Ramgarh and Raniganj coalfields. Another colliery at Birsampur in M.P. started production in March 1965.

The Major Coalfields in India as found at Raniganj, Jharia, East Bokaro and West Bokaro, Pench-Kanhan, Tawa Vally, Singrauli, Talcher, Chanda-Wardha, Godavari Valley and others.

The coal reserves of India, as per assessment made by Geological Survey of India upto 1.1.1989, are 1,79,330.35 million tonnes for coal seams of 0.5 metre and above in thickness down to a depth of 1200 metres. The distribution of coal reserves in the different states is as under:—

STATE	Million Tonnes
(a) Andhra Pradesh	10,086.20
(b) Arunachal Pradesh	90.23
(c) Assam	280.03
(d) Bihar	59,132.24
(e) Madhya Pradesh	28,814.61
(f) Maharashtra	5,271.84
(g) Meghalaya	458.94
(h) Nagaland	12.05
(i) Orissa	41,556.64
(j) Uttar Pradesh	1,062.21
(k) West Bengal	29,565.36
Total	1,76,330.35

The categorywise reserves are:—

Type of Coal	Proved	Indicated	Inferred	Total
Gondwana Coals	57,673.23	68,303.89	49,511.98	1,75,489.10
Tertiary Coals	128.89	220.08	492.28	841.25
GRAND TOTAL	57,802.12	68,523.97	50,004.26	1,76,330.35

The bulk of the better quality of coal reserves in India is situated in what is called the Bengal-Bihar coal belt, although production of coal is being expanded in Andhra Pradesh, Assam, Madhya Pradesh and Orissa. Lignite or brown coal, is mined in Neyveli (Tamil Nadu).

COAL PRODUCTION—The year 1987-88 was a landmark in the history of coal industry in as much as it was during this year that the country had achieved on all time high production of coal at 179.75 million tonnes and registered a growth of 8.4% over the previous year. During the year

1988-89 the country is all set to achieve another all-time high production of coal at about 194 million tonnes.

The average numbers of drills employed during April 1988 to December 1988 was 162. For coal exploration, a total of 2,45,092, metres of drilling work was undertaken during the period April to December, 1988.

NATIONALISATION OF COAL INDUSTRY—The entire coal industry was brought under direct Government control on January 30, 1973.

COAL INDIA LTD.—The management coking coal and non-coking coal mines of the country was taken over by the Central Government respectively in 1971 and 1973 by two separate enactments of the Parliament. Later, within a year or so of their take over, both the categories of coal mines were nationalised. Initially, the Government of India constituted a Coal Mines Authority Limited (CMAL) to look after the management of nationalised coal mines. Soon after, the Coal India Limited (CIL) was formed in 1975, as a Holding Company, with five subsidiaries, namely, Bharat Coking Coal Limited (BCCL), Central Coalfields Limited (CCL), Western Coalfields Limited (WCL), Eastern Coalfields Limited (ECL) and Central Mine Planning and Design Institute Limited (CMPDIL). Subsequently, about a decade later, in view of projected increase in production and huge investment contemplated for CCL and WCL group of mines, their extensive geographical coverage, resulting in day-to-day administrative, technical and communication problems etc., the Central Government decided to form two more coal companies as subsidiaries of the Coal India Limited, namely, Northern Coalfields Limited (NCL) and south Eastern Coalfields Limited (SECL) with effect from 28.11.1985. Coal India has, thus, now 7 subsidiaries under its control, viz., BCCL, CCL, WCL, ECL, NCL, SECL, and CMPDIL. Of this, first 6 companies are producing coal companies while the CMPDIL is an engineering-design institute set up for advising the Government on mining technology, preparation of coal projects, etc.

The functions of the holding company are to set targets and monitor them, to approve budgets, determine standards costs and retention prices and evaluate performance, to co-ordinate among subsidiary companies, to prescribe priorities, and to lay down guidelines for industrial relations and wage of policies. It is also responsible for the overall policy regarding coal distribution. The authorised capital is Rs. 5000 crores.

THE SINGARENI COLLIERIES LTD.—is a joint undertaking of the Government of Andhra Pradesh and Government of India. The company operates the coal mines in Andhra Pradesh, which produces non-coking coal only. The coal requirements of consumers in the south are mostly met by this company.

LIGNITE—The integrated Neyveli Lignite Project envisage the mining of 32 million tonnes of lignite per annum, to be utilised by generating 4200 mw of thermal power in a thermal power station, on the production of 1,52,000 tonnes of nitrogenous fertilizers in the form of urea, and on the production of 3,27,000 tonnes of carbonised lignite briquettes for use as domestic and industrial fuel. Full production at the targeted rate of 32 million tonnes per annum is expected to be achieved shortly when all the lignite consuming units of the Integrated Project, namely, the thermal power station, the fertilizer plant and the briquetting and carbonisation plant, would be in operation.

COAL PROJECTS—as on 31.12.1988, the number of projects sanctioned since 1973, costing Rs. 2 crores as more was 453. The total investment was Rs. 10,302.45 crores. Of all the projects, sanctioned, 313 are mining projects and 140 are non-mining projects like washeries, fire control projects, captive power plants, water supply schemes etc.

COAL WASHERIES—With a limited reserves of metallurgical in the country, steps have been taken (1) to wash all metallurgical coals so as to lower the ash contents and (2) blend weak and semi-coking coals with fully coking of Jharia. Hence, Hindusthan Steel Ltd. installed 5 coal Washerries at Durgapur, DugdaI, DugdaII, Bhoudih and Patherdih. The total investment in the Coal Washerries being set up by Hindusthan Steel was estimated at Rs. 28 crores. These are in addition to the Coal Washerries at Jamadoba, West Bokaro and

Lodna in the private sector and the National Coal Development Corporation at Kargali in the public sector.

The first composite type of coal-washing plant in the public sector was installed at Kargali in Hazaribag district of Bihar in 1958 costing about Rs. 246 crores with an annual capacity of 16 lakh tonnes of washed coal.

The following washeries are also being formed—(1) Kathara (3m. tonnes) in collaboration with a Russian firm under 112.5 million rouble credit; (2) Gidi (Karanpura, 2.84m. tonnes) in collaboration with a Polish firm under Rs. 14.3 crores credit; (3) Swang (0.75 m. tonnes) in collaboration with C.F.R.I. and (4) Chalkari (Kargil extension 0.5m. tonnes).

Coal Board—was set up under the Coal Mines (Conservation and Safety) Act, 1952 for the purposes of promotion of safety in coal mines conservation of coal resources. The main activities of the Board are: (1) Financial assistance to collieries; (2) Collieries seams continue to be grade in accordance with the prescribed specification; (3) Establishing a Central Coal Mining Research Station at Dhanbad. The expenditure of the Board is met out of a fund, known as the Coal Mines (Safety and Conservation) Fund created from the receipt of excise duty levied on all despatches of coal and hard coke.

Coal Council of India—helps to co-ordinate the programme of transport, coal and power, implied training of technical personnel and prospecting and drilling of areas from which coal will be raised.

Training—5 Mining Training School are at present functioning. These schools are located at Talcher, Kargali, Kurasia, Giridih and Bhurkunda collieries. The NCDL also run 9 evening lecture centres for sardars and shot fires and 3 evening lecture for assistant surveyors.

MINERAL OIL

Organisational Set-up—The Ministry of Petroleum, Chemicals and Fertilizers has two departments, namely, (i) the Department of Petroleum and (ii) the Department of Chemicals and Fertilizers. The former deals with the exploration and production of oil and natural gas, refining and distribution of petroleum products and petro-chemicals. The total capital investment in public and joint undertaking under the administrative control of the Department as on 1 January, 1981 amounted to Rs.1782.1 crore.

Early History—In 1867, after oil was discovered in America, the first oil-well was sunk in India. The first successful well was sunk at Digboi in 1889 where oil was struck at 662 ft. In the next 60 years, whatever oil was produced in India was at Digboi. Over the period Digboi production went up to 500,000 tonnes.

Explorations—Of the 1962 lakh sq. miles that make up the total area of India, nearly a third, i.e. some 4000 lakh sq. miles are sedimentary areas where oil is likely to be found.

A Petroleum Division was set up in the Geological Survey in 1955 in order to conduct the search for oil in a systematic manner. This grew into a Directorate of Oil and Natural Gas in the Ministry of Oil and Natural Gas Commission (ONGC) in August 1956 and three years later it was converted into a statutory organisation. Its main functions, as defined in the Act of Parliament are to "plan, promote, organise and implement petroleum resources and the production and sale of crude produced".

One of the first tasks of the Oil Organisation was to build up corps of scientists and technicians. The organisation acquired a deep-drilling rig from Rumania and entered into agreements with Soviet Union for the supply of more equipment. Under the Colombo Plan, Canada undertook an aeromagnetic survey of the Indo-Gangetic plain. ONGC has also signed agreements with the Italian State-owned oil company ENI and the French Petroleum Institute for assistance in explorations.

ONGC has 2 training institutes at Cambay in Gujarat and Sibsagar in Assam, each admitting 100 people to be trained as rigmen machinists and mechanics. Besides, it set up the Institute of Petroleum Exploration at Dehra Dun to deal with research in oil exploration and the Indian Institute of Petroleum which deals with research in refining and marketing.

However, ONGC is not the only agency carrying on oil exploration in India. The Burmah

Oil Company found large reserves in Naharkatiya, Moran and Hugrupan in Upper Assam in 1952. To develop these resources, the Burmah Oil Company and the Government of India went into partnership to form Oil India Ltd. in 1958.

In 17 years, ONGC has discovered 5 oil fields in Assam and 21 in Gujarat. In 1974, it has discovered oil deposits into the Arabian Sea at Cambay (Bombay High) near Bombay. The current production at Bombay High is 8 million tonnes a year, (1,600,000 barrels per day).

The production of crude oil in 1987-88 is likely to be more or less of the same level as that of 1986-87. The target of production for the year is 30.46 million tonnes. There has also been substantial increase in the supply of natural gas. As against 5040 million cubic metres in 1986-87, ONGC's gas supplies during 1987-88 are expected to be 5580 million cubic metres. During the year oil was struck at Krishna Godavari Offshore area, Bhuvnagiri in Cauvery basin, Kumchai in Arunachal Pradesh and gas was first found at Agartala in Tripura.

A new oil field has been discovered in September 1981 about 35 Kms. to the east of Bombay High.

The ONGC produced 27.62 million tonnes of crude oil and supplied 5,580 million cubic metres of natural gas during April-March 1988, 45,100 line Kms. of exploratory drilling was completed up to November, 1987. Till November, 1987 about 20,659 line Kms. of seismic survey onland and 21,693 line Kms. in offshore have been conducted.

Production — The work of ONGC is not only to explore but also to produce oil resources. Normally, it takes three to four years between the time when oil is found and the time when it can be despatched.

ONGC has built a pipeline from Ankleshwar to Koyali (near Baroda) where a state refinery has been set up. Pipelines have also been laid down from Ankleshwar to Uttaran and from Cambay to Dhuvaran for carrying natural gas.

Meanwhile, Oil India Ltd., has also made substantial progress. Apart from providing half the total production of the country, Oil India laid a long pipeline connecting the oilfield of Assam with the refineries at Nunmati and Baranui. 720 miles in length, the pipeline is the second longest in Asia and one of the most modern in the world. Its final cost was about 45 crores.

Oil India Ltd., with its headquarters in Duliajan (Assam), has an authorised capital of Rs. 50 crores. It was incorporated on Feb. 18, 1959 with the Government of India holding 33 1/3 per cent of paid-up shares in the Company which is now 50%. Its main objectives are: (1) exploration for and production of crude oil (including natural gas) and (2) construction of a pipeline to transport crude oil to the Government owned refineries at Nunmati and Baranui, with initial capacities of 0.75 tonnes and 2.0 million tonnes per annum respectively.

Bharat Petroleum Corporation Ltd. was taken over by the Government in January 1976.

Hindustan Petroleum Corporation Ltd., is a public sector undertaking. The Government has acquired its full ownership since October 1976. The authorised capital of the Corporation as on March 31, 1987 was Rs. 100 crores, and paid up capital was Rs. 63.84 crores. The total number of retail outlets as on March 31, 1987 stood at 3,682. The total gas consumer stood at 33.1 lakhs.

Refining — The oil-drilled out, called crude is refined or distilled to separate the numerous compounds of which it consists such as fuel gas (can be used for lighting, heat and power), propane butane, light naphtha, kerosene, stove oil, light gas oil (furnace oil, as also diesel), heavy gas oil, vacuum oil, pitch (from which comes the asphalt).

The present refinery capacity in the country is about 31.80 million tonnes. There are eleven refineries in operation.

In Feb. 1959, a State Company, the India Refineries Ltd., (which later merged with India Oil Corporation Ltd.) was formed to build and manage the refining business in the public sector. Agreements were concluded with Rumania in October 1958 to set up a refinery at Nunmati near Guwahati, Assam and with the Soviet Union in September 1959 to build a refinery at Baranui in North Bihar.

The Indian Oil Company Ltd., (Refineries Divisions) and the Soviet export organisation executed a contract of January 11, 1965 providing for the delivery of 1,540 tonnes of equipment and materials for the expansion of the Baranui Refinery.

The ONGC with the Soviet expanded the capacity of the Koyali Refinery in Gujarat to 3 million tonnes of crude oil.

Similarly with the help of Philips Petroleum Company of the U.S.A. a refinery was set up at Cochin with a capacity of 2.5 million tonnes.

A 2.5 million tonnes oil refinery has been set up in the public sector in Madras under an agreement signed on November 18, 1965 by the Pan American International Oil Company.

Agreement for the establishment of a 2.5 million tonnes oil refinery and Lube Plant at Haldia were concluded between the Government of India and the French and Romainan collaboration on September 9, 1967 and Oct. 16, 1967 respectively.

The names of the refineries and their installed capacities are given below :—

Sl No.	Name of the Company	Location	Refining Capacity (In million Tonnes)
1	2	3	4
1.	Indian Oil Corporation Ltd.	Barauni	3.30
2.	Bharat Petroleum Corpn. Ltd.	Bombay	6.00
3.	Hindustan Petroleum Corpn Ltd.	Bombay	3.50
4.	Bongaigaon Refinery and Petro Chemicals Ltd.	Bongaigaon	1.35
5.	Cochin Refineries Ltd.	Cochin	4.50
6.	Assam Oil Company	Digboi	0.50
7.	Indian Oil Corpn. Ltd.	Guwahati	0.85
8.	—do—	Haldia	2.50
9.	—do—	Koyali	8.10
10.	Madras Refineries Ltd.	Madras	5.60
11.	Hindustan Petroleum Corpn. Ltd.	Vizag	4.50
12.	Indian Oil Corpn. Ltd.	Mathura	6.00

SELECTED REFINERIES IN THE PUBLIC SECTOR

BARAUNI—Bihar; set up with the Soviet Union's collaboraton started production in July 1964. Capacity : 1st Stage-1 million tonnes ; 2nd Stage-2 million tonnes ; 3rd state-3 million tonnes. Present throughout : 1.62 million tonnes.

COCHIN—Set up with the co-operation of Philips Petroleum Co. U.S.A. with a capacity of 2.5 million tonnes with a provision for expansion up to 3.5 million tonnes. Inaugurated on 23rd September, 1966 went on stream in June, 1969. Throughou : 2.5 million tonnes.

KOYALI—Near Baroda in Gujarat. Set up with the Soviet Union's assistance. Its first unit, having an annual capacity to produce one million tonnes of petroleum products, was commissioned on October 1, 1965.

The refinery will draw crude oil from the oilfields of Ankleswar, Kalol, Nawagan and other North Gujarat oilfields. Capacity : 1st Stage-0.75 million tonnes; 2nd Stage-2 million tonnes ; 3rd Stage - 3 million tonnes.

Nunmati—Near Guwahati in Assam. Set up with Rumania Collaboration. Started production in January, 1962. Capacity: 1st stage-0.75 million tonnes; 2nd stage-1 million tonnes.

Madras Refinery—The refinery set up at Madras with the assistance of Government of India, National Iranian Oil Co. and Pan American International Oil Co., started production in the end of June, 1969. The capacity of the refinery is 2.5 million tonnes per annum and it will also produce lube base stock and sulphur in addition to other petroleum like motor gasoline, naphththa, kerosene, HSD etc.

Lube Refinery—In order to converse foreign exchange on imports of lube base stock-raw material for production of final lubricants—Government sanctioned three new plants, at Bombay, Madras and Calcutta. Lube India Ltd., was a joint venture refinery at Bombay

with the Government of India and Esso as equal partners. The construction of the plant was completed in December, 1969 and the refinery went on stream in January, 1970. The project was formally inaugurated on 12th Feb. 1970. The design capacity of this refinery is 170,000 tonne per year. The lubrication oil blending plant of the Indian Oil had been formally inaugurated in March, 1970 at Tondiarpet near Madras. The Rs. one crore plant which has already started production had been designed, constructed and commissioned entirely by Indian experts. It will produce 1.40 lakh tonnes of various lubricants every year.

Distribution—until 1959, marketing of oil in India was wholly in private hand. The State entered this important business in June that year by setting up Indian Oil Company which later merged with the Indian Refineries Ltd. The Corporation, with headquarters in Delhi, has 2 Divisions—refining and pipelines, and marketing. The refining and pipelines headquarters is in New Delhi and marketing is in Bombay.

The Indian Oil International Ltd., wholly-owned subsidiary of the Indian Oil Corporation Ltd., which was registered at Kathmandu on June 11, 1970 as a foreign company for the sale of Indian Oil products within Nepal, started its trading activities on November 1, 1970.

The number of LPG dealerships existing on 30, November, 1987 was 1533. The total number of outlets as on 30 November was 5,416.

Petro-Chemical Industries—with the production of natural gas in Gujarat and Assam and of refinery gases in the various refineries, a Petro-Chemical industry is also taking root in the country. In the public sector, the Fertilizer Corporation of India, a Government of India undertaking, has launched a programme of setting up a chain of chemical fertilizer factories all over the country.

The Indian Petro-chemicals Corporation Ltd. which was incorporated on 22 March, 1969, is conducting the Gujarat Petro- Chemical complex being set up in the public sector.

Pipeline Project—Pipelines have become the SINEQUO NON of the oil industry. India's first trunk pipeline for transport crude oil from Naharkatia to the State-owned refineries at Guwahati and Barauni is complete ; the Naharkatia-Guwahati sector is already supplying crude oil to the Guwahati refinery and the Guwahati- Barauni sector is also working. The total length of the pipelines is almost 720 miles. This pipeline is the second longest in Asia.

A contract for the construction of 5 pipelines in Gujarat area was signed on May 6, 1963 between Oil and Natural Gas Commission and SNAM, a subsidiary of the ENI, Italy. About 370- kilometre long pipeline will carry natural gas, crude oil and petroleum products.

India's first long-distance product-pipeline linking the Guwahati refinery with Siliguri (West Bengal) has been formally commissioned. The pipeline 462 km. in length will carry 4.81 lakh tonnes of oil products every year, relieving the railways of a big burden. Its designing, engineering and construction management were entrusted to the Bechtel Corporation of U.S.A. The construction was done by the SNAM of Italy, under the agreement of 1961.

The two longer pipelines totalling 1,192 km. which connected the Barauni Refinery with Calcutta and Kanpur have been completed.

Research and Training in Petroleum—An Indian Institute of Petroleum has been established with the assistance from the French Petroleum Institute under the control of the council of Scientific and Industrial Research. An Institute of Petroleum Exploration at Dehra Dun in the ONGC with the assistance of UNSF was established in 1962. Institute of Petroleum Exploration conduct problem oriented research in exploration and production of oil. The Institute of Reservoir Studies was started in May 1978 at Ahmedabad. The Institute of Drilling Technology was set up at Dehra Dun to carry out research.

IRRIGATION

India's water resources have been provisionally estimated at 13,560 lakh acre-feet, of which approximately 4,500 lakhs acre- feet are belived to be usable for irrigation. The irrigated area in the country is now 70.0 million acres. The main thrust of the development policy for irrigation sector is achieving the assessed target of 113 million ha. by the end of this century or shortly thereafter.

Since the beginning of planning, irrigation facilities have been increased from 22.6 million ha. to 67.5 million ha. During the Seventh Plan another 12.9 million ha. was brought under irrigation. Irrigation plans have been taken up on the basis of needs and availability of surface and ground water. As many as 612 major and medium schemes have been taken up for execution of which nearly 380 have been completed.

Organisational Set-up—The Ministry of Water Resources is now responsible for irrigation and flood control. Beside laying down the policy for the conservation, development and regulation of the country's water and power resources, the Ministry performs the following functions :—

Provisions of financial and technical assistance to State Governments and Union Territories in the field of irrigation, power, flood control, drainage, anti-water logging and anti sea erosion measures ; regulation and development of inter-State rivers and river valleys, research on river valley projects and flood control works ; applied research in power ; watching the progress of execution of projects in irrigation and power and costs against estimates ; examination of schemes formulated by the States for inclusion in Plans ; international questions to the conservation, regulation and exploitation of river water resources, and aid received for development of irrigation and power in India and similar aid given to other countries by India arranging allocation of foreign exchange and materials, implementation of the Indus Waters Treaty, 1960.

An Irrigation Commission was set up in April 1969 to review the development of irrigation in the country to report on the future programmes for integrated development of surface and ground-water resources for maximising agricultural production. The Commission recommended for the setting up of the National Water Resources Council, a National Irrigation Grid and River Basin Commission. It has recommended a single Directorate of Hydrology for assessment of the surface water resources and River Basin Commission for the preparation of plans for all the major river systems.

The proposed National Water Resources Council will decide on policy matters regarding the conservation resources and their utilization and interbasin transfer of water. It is also visualized as a body deciding priorities for uses of water in the national interests and for overseeing the work of the River Basin Commissions.

The commission has made some recommendations on the speedy settlement of inter-State river water disputes.

Several proposals on streamlining the drawing-up of projects and their sanction and execution have been made together with recommendations on the considerations of economy and finance that should be followed.

National Water Development Agency—has been set up as a registered society in July, 1982, to promote scientific development and optimum utilisation of water resources for developing a national Perspective for water resource with an objective of increasing the irrigation potential in the country.

INDUS WATER TREATY, 1960—This treaty fixing and delimiting the rights and obligations of India and Pakistan in regard to the use of Indus System of Rivers, was signed between India and Pakistan on September 19, 1960.

JOINT RIVERS COMMISSION—Following the Joint Declaration of March 19, 1972 of the Prime Ministers of India and Bangladesh, it was agreed to establish a Joint Rivers Commission to carry out a comprehensive survey of the river system shared by the two countries and formulate projects concerning both the countries in the field of flood-control and river development. The Commission has been functioning since June 1972.

In Sept, 1977 India & Bangladesh signed an accord on the sharing of Ganga Waters. Known as the Farakka Agreement it provides for withdrawal by India & Bangladesh during the leanest period—from April 21 to April 30—at the 20,800 cusecs & 34,700 cusecs, working out at 37.5% and 62.5% respectively of the minimum flow of 55,500 cusecs of Farakka in the lean season.

GANGA FLOOD CONTROL COMMISSION—was constituted in April 1972 with its

Headquarters at Patna for formulating a comprehensive plan of flood control in the Ganga basin.

GANGA BASIN WATER RESOURCES ORGANISATION—is carrying studies relating to hydrological measurement and preparation of Water Utilisation Plan for the Ganga basin.

RURAL ENGINEERING SURVEYS—was formed on October 1971 to bring an integrated, methodical and scientific approach to the solution of development problems of the villages.

CENTRAL WATER COMMISSION—is responsible for initiating and co-ordinating schemes for the control, conservation and utilisations of water resources throughout the country, for purposes of irrigation, navigation, flood control and water-power generation. This is the highest expert body of irrigation and power engineering at the Centre. The Commission consists of a Chairman, and four members. The work of the Commission is divided into four functional wings namely, Design & Research Wing, Planning & Progress Wing, Water Resources Wing and Flood Control and Drainage Wing. There is a separate Administration and Co-ordination wing, which provides establishment and administrative services to the organisation.

FLOOD CONTROL AND SOIL CONSERVATION—India has established a Central Flood Control Board at the top to co-ordinate the work of various State Flood Control Boards and River Commissions. 15 State Flood Control Boards assisted by their Technical Advisory Committees at the State level and 4 River Commission at the inter-State level are functioning in the country. A Flood forecasting Unit established in 1958, deals with the studies for evolving a suitable flood forecasting technique. The Flood Forecasting, centres are located at Delhi, Guwahati, Bhubaneswar, Patna, Surat, Jalpaiguri, Hyderabad and Lucknow.

The National Flood Control Programme was launched in 1954. The protective measures implemented since then have covered about 12.44 million hectares of the total estimated flood prone area of 40 million hectares. The works implemented included construction of 12,905 km. of embankments, 25,331 km. of drainage channels, 332 town protection schemes and raising of 4,696 villages above high flood level.

A CENTRAL FLOOD FORECASTING ORGANISATION—was established during 1969 in the Central Water and Power Commission with centres at ; Guwahati, Balasore, Surat, Patna, Varanasi, and Jalpaiguri. A radar has been set up on the eastern coast to issue warning against the cyclone. The Soil Conservation Directorate of the C.W.P.C. is maintaining close liaison with the State Government, Ministry of Flood and Agriculture and the Planning Commission. Central Soil and Materials Research Station is functioning from New Delhi.

WATER AND POWER DEVELOPMENT CONSULTANCY SERVICES (INDIA) LTD—was set up on June 26, 1969 with an authorised capital of Rs. 50 lakhs for making India's expertise in the field of irrigation, power available to developing countries.

MAIN TYPES OF IRRIGATION—(1) Canal Irrigation—Canals draw their waters from rivers or from artificial storage. River canals are of three classes—Inundation canal, Perennial canal and Storage canal.

(2) The rest of the irrigation is done through tanks, surface percolation wells, tube-wells, etc. The term minor applies to this type of irrigation.

(a) Surface percolation wells exist all over the country.

(b) **TANKS AND RESERVOIRS**—The water either in natural depression or on the beds of streams of dammed-up and shallow basins created for storing water.

(c) Flood and inundation irrigation are the other sources of minor irrigation in India. The monsoon flood water of rivers is diverted to lands which are above the level of the ordinary supply in a river. The flood water soaks at lands and the moisture retained in the soil, allows cultivation of a winter season crops, which, otherwise would not be possible.

(d) **TUBE-WELLS**—This means lifting of water from underground means of mechanical pumps.

The irrigation is again divided into three classes :—

(1) **PRODUCTIVE**—The capital for the construction and extension of this class is provided out of borrowed money or by appropriation from Famine Insurance Grant, and which is expected to yield within ten years of their completion sufficient revenue to pay their working expenses as well as the interest on the capital expended on their construction.

(2) **UNPRODUCTIVE**—Unproductive works are those which yield a net revenue and are less than the percentage fixed for productive works. These are constructed primarily as protection against famine, and the cost of construction is provided out of current revenue or by appropriation from Famine Insurance Grant.

(3) **MINOR**—These are Small works for which detained capital or revenue accounts are maintained ; such works may be either productive or unproductive.

DAMS AND BARRAGES—It is necessary to understand the differences between a Dam and a barrage in connection with river valley projects. Any obstruction built to stem the flow of water in a stream is a dam and from this point of view, a barrage also is a dam. But a dam has come to be synonymous with a comparatively high structure built to form a reservoir and a barrage with a structure which controls and regulates the flow of water.

RESEARCH—The fundamental and basic research in the country in the field of irrigation and power is carried on by the Central Board of Irrigation and Power. The Board also looks after the co- ordination of the works of 21 research stations in the country.

SILT AND CONSTRUCTION MATERIALS DIRECTORATE—assists in carrying out surveys, investigations, collections of essential silt data. The Directorate has four divisions.

CENTRAL WATER AND POWER RESEARCH STATION, PUNE—continues in research activities in a comprehensive field of research for solving a variety of difficult and complex problems in pure and applied fluid mechanics from foundation and construction material analysis. A Cultivation Research Laboratory is being set up with assistance from U.N. Development Programme.

CENTRAL SOIL AND MATERIALS RESEARCH STATION, NEW DELHI—continues to perform very useful work, such as surveys, investigations, collection of essential sediment data and research on suspended sediment sampling equipment, construction material, etc., required for design and execution of irrigation and power projects and flood control schemes.

SONE RIVER COMMISSION, PATNA—Set up in March, 1980 to prepare and present a comprehensive basis and regional plan for the optimum use of the Sone water for irrigation and multipurpose uses.

SARDAR SAROVAR CONSTRUCTION ADVISORY COMMITTEE, NADODARA—was set-up for the purpose of scrutinising the estimates, technical features, designing of the plans and power position and the annual works programme of the Sardar Sarovar Project in Gujarat.

RIVER VALLEY PROJECTS

The State governments are primarily responsible for the planning and execution of irrigation and power projects. Most of the major multipurpose projects, are however, being financed entirely by the loans from Central Government. To ensure their efficient, economical and early execution, Control Boards have been set up for each major project. Only exception is the Damodar Valley Project, for which statutory Corporation has been set up.

BEAS PROJECT—It is a joint venture of Punjab and Rajasthan with two units—(1) Beas-Sutlej Link and (2) Beas Dam at Pong. The first envisages the diversion of the Beas Water into Sutlej to avail itself of 1,000 ft. fall at Dehar and 400-ft. fall at Bhakra for generation of electric power etc. The total power potential is 733 mw. This Project will provide irrigation to a culturable commanded areas of 13 lakhs acres. The second unit, Pong Dam is located near Pong village rising 350 ft. above the river bed. A power plant with an installed capacity of 240-mw. will also be constructed here.

GANDAK PROJECT—As international agreement on the Gandak, irrigation and Power Project between Nepal and India was signed on Dec. 4, 1959. The project was

inaugurated by the King of Nepal on May 4, 1964. It is primarily an irrigation project through a small quantum of power will also be generated. It is an inter-State project in which Bihar and Uttar Pradesh are the participating States, while irrigation and power benefits would also accrue to Nepal. The Project envisages the construction of a barrage with an road-cum-railway bridge across the river Gandak, at Bhaishalotan in Bihar. There will be two canal systems—Eastern Canal System and Western Canal System. The Project comprises (1) 2,437 ft. long barrage and a road bridge across the Gandak at Bhaishalotan, Bihar, (2) one power house with three generating units on the main western canal in Nepal Territory, (3) two canals.

DAMODAR VALLEY PROJECT—The aim of this multi-purpose project is to tame the turbulent Damodar and its tributaries which overflow their banks and bring destruction and misery to large parts of Bihar and West Bengal. It is a joint venture by the West Bengal, Bihar and Central Government.

The project comprises the construction of a series of four dams on the main Damodar river and its tributaries of Konar, Tilaiya, Maithon and Panchet hills hydro-electric stations attached to the last three thermal power stations on each at Bokaro, Durgapur and Chandrapura, a net work of transmission distribution of about 1,725 miles and the Durgapur Barrage and irrigation system of 1,550 miles of canal. The project is expected to afford flood protection to the Damodar Valley and to extend irrigation facilities to an area of 10,26,000 acres. The installed capacity of the DVC power system is 1,061 MW. With the addition of the second unit at the Chandrapura Thermal Power Station, the generating capacity of the DVC power station has been raised.

TILAIYA DAM—is located about 12 miles from Kodarma railway station across the Barakar river. It is a straight all-gravity concrete dam with earthen extension on the either side. It is 1,200 ft. long and 99 ft. high. Its storage capacity is 3,20,000 acre ft.

KONAR DAM—is located in Hazaribag district of Bihar, across the Konar river. The storage capacity of the reservoirs is 173,000 acre ft. and the waterspread is 10.3 sq. miles. 160 ft. high this dam is a composite structure with 848 ft. long concrete section and earthen embankments on the flanks running to a total length of 11,639 ft. It was completed in 1954.

MAITHON DAM—is situated 16 miles from Asansol railway station across the Barakar river. It is a rolled earthen dam with concrete spillway. The dam is 162 ft. high and 2,062 ft. long. It is mainly designed for flood control. The underground hydro-electric station near this dam has a capacity of 60,000 kw. The concrete spillway of the dam is 612 ft. long. On either side, a total length of 14,462 ft. of certain dyke stretches round the reservoirs.

PANCHET HILL DAM—in Dhanbad district of Bihar, across the Damodar river, is the largest of the dams in the Damodar Valley. It is primarily designed for flood and power generation. It comprises an earthen dam 7,135 feet long and 134 feet high, a concrete spillway 1,215 feet long and 13,805 feet dykes and stores 12,14,000 acre-feet of water. The power house provide for a generating capacity of 40,000 kw initially. The dam was inaugurated in Dec. 1956.

TENUGHAT DAM—An agreement has been evolved by the Irrigation and power Ministry with the Government of West Bengal and Bihar on the construction of a dam at Tenughat on the Damodar river. The water from the dam is to be available to a super-thermal power station at Bhojudih.

DURGAPUR BARRAGE—is situated about a mile from Durgapur railway station and 25 miles from Asansol across the Damodar river. It is 2,271 feet long and 38 feet high and was opened in Aug. 1955. It will irrigate through a net work of canals and distributaries. Nearly 85 miles of main left bank canal will be navigable and will provide an alternative means of communication between Calcutta and coal-fields of Raniganj.

DURGAPUR THERMAL POWER STATION—This station with an installed capacity of 150,000 kw. is expected to cost of Rs. 32 crores.

BOKARO THERMAL POWER HOUSE—is about 12 miles down-stream of the Konar Dam in Hazaribag district of Bihar. It was commissioned in February 1953 and its installed capacity is 1,63,000 kw. The power is being consumed by Tatas at Jamshedpur, Hirapur,

copper mine at Ghatsila, coal mines of West Bengal and Bihar, industries around Asansol, Sindri and Calcutta.

CHANDRAPURA THERMAL POWER STATION—The second unit of 140 mw. at this station was commissioned in May 1956. On July 7, 1968, the third 140 mw. unit of the Chandrapura Thermal Power Station was commissioned.

PRESENT SETUP OF THE D.V.C.—The Project in Damodar Valley has been transferred to the Government of West Bengal from December 2, 1963 in the interest of economy and efficiency. The operation and maintenance wing of the Electricity Department of the D.V.C. has been transferred to Maithon.

GHATAPRABHA PROJECT—envisages the construction of a 71-miles long. Left Bank Canal taking off from the existing Dhapdaj weir to irrigate 2.98 lakh acres in Belgaum and Bijapur districts and masonry dam at Hidkal to store 21,300 m. cft.

FARAKKA BARRAGE PROJECT—is intended for the preservation and maintenance of the Calcutta Port and the navigability of the Hoogly river and will comprise a barrage across the Ganga at Farakka with a rail-cum-road bridge over it, barrage across the Bhagirathi and a feeder canal.

The object of the Farakka Project is to save Calcutta Port from silting up. The Hooghly river serves as navigation channel between the sea and the port. The main stream of the Ganga flows through another branch, namely Padma, and the Hooghly gets waters only when the Ganga is in high floods. The tidal bores in the sea ride on into the Hooghly and deposit heavy sediments year by year. To flush the sand silt back into the sea it is necessary to release water stream into the Hooghly in the upper-reaches.

TISTA MULTIPURPOSE PROJECT—envisages the construction of a barrage across the river Tista in West Bengal. It is programmed in two phases—(1) Tista Multi-purpose barrage and (2) Tista Dam. The first phase of the project is intended to generate hydro-electric power of 48,000 kw.

CHAMBAL PROJECT—The Chambal rises in the northern slopes of the Vindhyas at an elevation of 2,800 feet and flows across the M.P., Rajasthan and Uttar Pradesh. The last stage of the Project consists of the construction of Gandhi Sagar Dam. Power house at foot of the dam with 5 units of 23,000 kw. each, transmission lines, Kotah Barrage, and Irrigation Canal System. The 2nd stage envisages the construction of a masonry dam on the main river (Rana Pratap Sagar Dam), a saddle across Padajhar valley on the left flank and a power station with 4 units of 43,000 kw. each below Rana Pratap Sagar Dam. Stage III of the Project comprises Kotah Dam and a power house at its toe, about 15 miles below the Rana Pratap Sagar Dam.

MALAPRABHA PROJECT—envisages the construction of a 145-ft. masonry dam across the Malaprabha river, a tributary of Krishna, at a site 7,000 ft., downstream of the entrance of Canal will irrigate an area of 3 lakh acres.

PARAMBIKULAM ALIYAR PROJECT—is a multi-valley-Project. The Project envisages the construction of 7 reservoirs for harnessing the rivers Nirar, Scholayer, Parambikulam, Tunakadauvu, Peruvipallem, Tekkadi and Aliyar. 12 miles of tunnels a weir 30 miles of lined contour canal and 120 of lined main canals. The reservoirs, will irrigate an area of 2,40,000 acres in the arid regions of Coimbatore district in addition to establishing and augmenting the irrigation supplies in Chittoor area of Kerala State and production of power.

HIRAKUD DAM PROJECT—The Hirakud Dam Project in Orissa which involves the construction of the longest dam in the world, 15,748 ft. long consists of a concrete-cum-masonry-cum-earth dam across the Mahanadi river, 9 miles upstream of Sambalpur, with two canals for irrigation and hydro-electric installations.

Stage II of the the Hirakud Hydro-Power House at Buria by installation of two generating units 37,000 kw., each and construction of Chiplimal Power House with a generating units of 24,000 kw. was completed and put into service in September 1963.

BHANRA RESERVOIR PROJECT—is a multi-purpose project. It envisages the construction of masonry dam, 1,445 ft. long 235 ft., above the deepest foundation and 194 ft.

above the river bed with a 3,610 ft., long earth embankment across Bhadra near Lakkavalli village in Karnataka with two canals.

KAKRAPARA PROJECT—This Project is the first phase of the development of the Tapti Valley. The weir, 2,038 ft. long and 45 ft. high on the rocky river bed near Kakrapara, 50 miles upstream of Surat, was completed in June 1963. The weir was completed in 1955.

SONE BARRAGE PROJECT—envisages : (1) Construction of a barrage, 4,616 ft. long, five miles upstream of the existing anicut at Dehri-on-Sone with two wing canals on either side. The Sone Barrage is the longest bridge in the world and was completed and opened on 21st November 1965. (2) Remodelling of the existing canal system. (3) Construction of western and eastern high level canals.

NAVAGAM PROJECT—envisages the construction of diversion dam at Navgam, Broach district, 12 miles from Raj Piple and Low Level Canal.

UKAI PROJECT—is a multi-purpose project which envisages the construction of a 236 ft. high dam on the river. Tapti near the village Ukai creating reservoir of 8,511 million cu. m. capacity.

MAHI IRRIGATION AND POWER PROJECT (BAJAJ SAGAR PROJECT)—envisages the construction of a 120 ft. high dam across the river Mahi, below its confluence with Erau river near village Bor-Khera in Rajasthan. A saddle-dam about 8 miles upstream of the main dam will be constructed for irrigation supplies.

MAHI PROJECT—envisages the construction of a pick up weir across the river Mahi with a right bank canal in Gujarat State for irrigation of an area of 4.6 lakh acres. Kadana Project, second stage of the Mahi Project, provides for the construction of a dam across Mahi at Kadana. It provides for the construction of direct canal for irrigation of 40,905 acres of land in Panchmahal district.

MAHANADI RESERVOIR PROJECT—near Gangrel village, about 80 km. from Raipur is expected to be completed in 1978. The foundation stone of this Rs. 25-crore project was laid on 5th June, 1972 by the Prime Minister. The Project, besides providing irrigation to about 300,000 acres will also help expansion of the Bhilai Steel Plant. The Project envisages the construction of a 74-ft. masonry-cum earthen dam across the Mahanadi.

KANGSABATI PROJECT—envisages construction of two independent earthen dams of the Kangsabati river and on Kumari river (a tributary to Kangsabati) about a mile upstream of their confluence near Ambikanagar in the Bankura district of West Bengal. The Project is estimated to cost Rs. 45 crores when completed the giant stone-wall will create a reservoir of the capacity of a lakh acre ft. and an irrigation potential of 11.10 lakh acres.

RAMGANGA PROJECT—This multi-purpose project in Uttar Pradesh has three units. (1) Dams and Appurtenant Works—There will be a 412-ft. high earth and rockfill dam across the river Ramganga near Kalagarh in Garhwal and 252-ft. high saddle dam across the Chuisot stream. There will also be two diversion tunnels of 35-ft. diameter each for diverting the flow of the river. (2) Irrigation and Drainage Works—These consist of (a) 1,795-ft. long weir and (b) remodelling and extension of irrigation channels. (3) Power Generation Works—provides for a power house on the right bank of the river at the toe of the main dam having 3 units of 60 mw. each.

KOSHI PROJECT—The three unit Kosi scheme, affording protection against floods, will irrigate about 14.05 lakhs acres annually in Bihar. The main features are : Unit I—Hanumantnagar Barrage and Headworks. A barrage is being constructed across the Kosi river about 3 miles about Hanumantnagar in Nepal. Unit II—Flood embankments (about 150 miles in length) along both the bank of the river, have already been completed (1959). Unit III—comprises the Eastern Kosi Canal which will take off from Hanumantnagar Barrage, will have four branches, namely Muriganj, Jankinagar, Banmankhi and Araria branches.

THE WESTERN KOSI CANAL PROJECT—envisages the construction of a 107 km. long main canal of a capacity of 198 cumecs (700 cusecs) taking off, from the western side of the Kosi Barrage, located in Nepal. The canal will pass through Nepal for the first 34

km. before entering India. It is designed to irrigate 0.14 lakhs ha. in Saptari district of Nepal. Irrigation of another 0.12 lakhs ha. in Nepal by pump canal is also envisaged.

NAGARJUNA SAGAR PROJECT—This project which is a scheme of Andhra Pradesh, comprises the construction of a masonry dam 303 ft. high near Nandikonda village across the river Krishna and two canals each on either side, to irrigate an area of 6 lakhs acres. The Right Bank Canal will be 135 miles long and the left bank Canal 108 miles. An area of 20.6 lakh acres will be irrigated by this Project. The reservoir will have a storage capacity of 54.4 lakh acre-feet and its water spread will be 73.66 sq. miles. The dam will be provided with eight panstocks, of 14 ft. diameter, for the generation of power in the final stage.

TAWA PROJECT—This Project in Madhya Pradesh envisages the construction of (1) a dam 5,315 ft long and about 182 ft. high across the river Tawa, (2) two earthen dykes 771 ft. and 781 ft. long, (3) a network of canals and distributaries on either side of the river, (4) two power houses with total installed capacity of 42 m. (5) connected transmission lines.

BHIMA PROJECT—The biggest of Maharashtra's irrigation projects on the Bhima river—a tributary of the Krishna—is meant to irrigate 450,000 acres.

ITTIADOH PROJECT—On the Garhvi river, a tributary of the Vainganga, in the Vidarva region of Maharashtra is meant to irrigate 75,000 acres.

PORT OF CALCUTTA PROJECT—The Ganga barrage project envisages (1) a barrage across the Ganga at Farakka in Murshidabad district (see index), (2) a barrage across the Bhagirathi at Jangipur in Murshidabad district, about the outfall of the canal, (3) a feeder canal, 26 1/2 mile long taking off from upstream of the Ganga Barrage on the right bank and outfalling into the Bhagirathi downstream of the Jangipur Barrage.

KUNDAH HYDRO-ELECTRIC PROJECT—is situated in the Nilgiris It comprises four stages. First and second stages included 2 power houses, the third and fourth stages comprises 3rd and 4th power houses. The project is built with aid from the Canadian Government under the Colombo Plan.

RAJASTHAN CANAL PROJECT—This Project envisages the construction of a canal taking off from the Harni Barrage across the river Sutlej and has been divided into two parts : (1) Rajasthan Feeder—134 miles long, of which the first 110 miles lies in Punjab, (2) Rajasthan Canal 291 miles long lying entirely in Rajasthan. The Rajasthan Canal Project on completion of both the phases will provide irrigation facilities to an area of 28.75 lakh acres annually.

JAYAKWADI PROJECT—across the river Godavari consists of a dam 120 ft. higher near Paithan and left bank canal 115 miles long. This will irrigate an area of 1.42 lakh hectares. The work inaugurated on 18th October 1965.

UPPER KRISHNA PROJECT—consists of a masonry spillway dam with earthen flangs across Krishna river at Narayanpur in Gulbarga district of Karnataka. The dam is 127.5 ft. high above the river-bed level and is 34,200 ft. long. Two canals take off from the dam. The Project will irrigate an area of 6 lakh acres.

MAJOR IRRIGATION PROJECT

(with the year of completion within brackets)

ANDHRA PRADESH—Romperu Drainage (1956) ; Godavari Delta system (1980) ; Nizam Sagar (1931) ; Rallapad (1957) ; Upper Pennar (1958) ; K.C. Canal (1963-64) ; Prakasan Barrage (1959-60) ; Bhairavani Tipka (1961-62) ; Godavari, Stage I (1959-60) ; Tungabhadra (1951-56) ; Kaddam (1968-69).

BIHAR—Sone Canal (1891) ; Kamala Canal (1978) ; Mayurakshi Left Bank Canal (1957) ; Tribeni Canal extension (1858-59) ; Nagi Dam (1960-61) ; Badua (1967-68) ; Sone Barrage (168-69).

GUJARAT—Rangola (1952) ; Brahmani (1954) ; Maj (1956) ; Aji (1961-62) ; Machu I (1961-62) ; Kakrapara (1968-69) ; Banas (1968-69) ; Hathmati (1968-69).

JAMMU & KASHMIR—Sind Valley (1956)

KERALA—Kuttand (1957) ; Peechi (1957-58) ; Navyar I (1959-60) ; Malampuzhal (1959-60) ; Walayar Reservoir (1958-59) ; Chalakidy, Stage I (1957-58) ; Wadakkancheri (1959-60).

MAHARASHTRA—Nira Left Bank Canal (1960) ; Pravara Rover Works (1938) ; Nira Right Bank Canal (1938) ; Gangapur Reservoir (1959) ; Ghod (1967-68) ; Vir (1967-68) ; Khadakawla, Stage I (1968-69) ; Purna (1968-69).

MADHYA PRADESH—Tandula Canals (1921) ; Mahanadi Canals (1927) ; Sampna (1959) ; Gangulpara (1960-61) ; Hasedo (1958-69).

ORISSA—Rash Kulya Canal (1901) ; Hirakud Stage I (1951-65) ; Salandi (1968-69).

PUNJAB—Western Jammu Canal (1886) ; Upper Bari Doab Canal (1978-79) ; Sirhind Canal (1886-87) ; Eastern Canal Extension (1933) ; Nangal Barrage (1954) ; Western Jammu Canal Extension (1944-45) ; Dadri (1961) ; Bhakra Nangal (1951-56) ; Harike (1967-68) ; Sirhand Feeder (1967-68).

HARYANA—Bhakra Nagal (1951-56).

KARNATAKA—Krishna Sagar Dam and Canal (1930) ; Tunga Anicut (1958-59) ; Nugu (1958-59) ; Ghataoprabha Left Bank Canal, Stage I (1958-59) ; Tungabhadra (1951-56).

RAJASTHAN—Jawai Project (1958-59) ; Namona (1959) ; Sareri (1960) ; Sarbati Project (1961) ; Meja Project (1961) ; Bhakra Nangal (1951-56).

TAMIL NADU—Periyar System (1897) ; Kaveri Metur (1934) ; Lower Bhavani (1956) ; Perinchari (1956) ; Araniar Reservoir (1957) ; Mettur Canals (1957) ; Krishnagiri (1958) ; Sathanpur (1959) ; Amravathi (1959) ; Kattalai High Level Canal Scheme (1959) ; Pullambadi Canals Scheme (1959) ; Mani Muthar (1967-68).

UTTAR PRADESH—Upper Ganga Canal (1884) ; Agra Canal remodelling (1959-60) ; Lower Ganga Canal (1978) ; Sarda Canal (1926) ; Sarda Canal extension (1955-56) ; Matailla (1951-56) ; Betwa Canal (1886) ; Jirgo Reservoir (1960) ; Belan and Tons Canal (1958-59) ; Ban Gnaga Canal (1956-57) ; Ghagar Canal (1917) ; Sarda Sagar, Stage I (1960-61) ; Matatilla, State I (1957-58) ; Sarda Sagar, Stage II (1967-68).

WEST BENGAL—Damodar Canal (1956) ; Mayurakshi (1956-57).

POWER GENERATION

Electricity supply in India began with the passing of India Electricity Act of 1940.

The total installed capacity of power generation in the country at the beginning of 1988-89 was 58,692 M.W. comprising 38,930 M.W. of thermal, 1,565 M.W. of nuclear and 18,197 M.W. of hydro. During 1988-89 new capacity of only 4,496.5 M.W. was commissioned.

The target for power generation during 1988-89 was fixed at 226.5 billion units. Of these 163 billion units were to be generated by thermal stations, 5.5 billion units by nuclear plants

and 58 billion units by hydro stations. Up to the end of February, 1989, 142.05 billion units were generated by thermal stations, 5.54 billion units by nuclear plants and 52.97 billion units by hydro stations. This represents an overall increase of 9.1% in the generation for the corresponding period of the previous year.

Resources for Power Development :

The main source of electricity generation in India are the Hydro power plants, thermal power plants based on coal and Nuclear power plants—although to some extent diesel generation is being resorted to feed isolated localities. Natural Gas has been utilised in Gujarat and Assam, where this resource is available to limited extent.

ORGANISATIONAL SET-UP—The Ministry of Energy was constituted on 11 October, 1974 comprising the Dept. of Power and Dept. of Coal. The Dept. of Power is responsible for laying down the National Policy for conservation, development and regulation of the country's power resources and for the formulation and promotion of the National programme in the field of power. It is also responsible for the co-ordination of the development of non-traditional sources of energy in the country to supplement the conventional resources for power generation.

CENTRAL ELECTRICITY AUTHORITY—was set up under Sec. 3 of the Electricity (supply) act of 1948 to perform the following functions—(1) to develop a sound, adequate and uniform national power policy ; (2) to act as arbitration in matters of dispute arising between the State Government and the Board and a license or other persons as provided in the Act ; (3) to collect and record data concerning generation, distribution and utilization of power; (4) to publish information secured under the Act and to provide for publication of reports and investigation ; (5) to give decisions on applications in respect of the investment in depreciation or other reserves outside the business of electricity supply ; (6) to scrutinize and make recommendation on scheme of the State Electricity Boards costing more than Rs. 1 crore each. In 1976-77 the Electricity Supply Act of 1948 was amended to enlarge the scope and function of the Central Electricity Authority and to enable the creations of companies for the generation of electricity in line with policy of separation of generation from distribution in the interests of efficient functioning.

CENTRAL ELECTRICITY BOARD—was constituted with powers to make rules for regulating generation, transmission, supply and use of electrical energy and generally to carry the purposes and objects of the Indian Electricity Act, 1910. It is a broad based organisation consisting of representatives of the Central Government, State Governments, Union Territories, State Electricity Boards, Federation of Electricity Undertakings of India, Railway Board, Mines Department and the Indian Standards Institution.

STATE ELECTRICITY BOARDS—have been formed in 18 out of 22 States. These Boards are required to nationalise the production and supply of electricity in their representative areas, to give bulk supplies of power of existing licensed undertaking and retail power wherever necessary and direct licenses to achieve maximum economy and efficiency in the operation of their undertakings.

REGIONAL ELECTRICITY BOARDS—In 1964, the Regional Electricity Boards have been formed into the following 5 regions to advise in the matter of integrated operation of power systems within its jurisdiction ; Northern, Southern, Eastern, Western and North-Eastern.

CENTRAL BOARD OF IRRIGATION AND POWER—continues to function as a central co-ordinating authority for research work in the field of hydraulic and hydro-electric engineering. It is an autonomous body. There are many research stations guided by the Board. The Board has also a Research Committee attached to it to co-ordinate research on irrigation, hydro-electric and allied subjects.

CENTRAL ELECTRICITY CONSULTATIVE COUNCIL—has been set up in Jan.

1968 with the Union Ministry of Irrigation and Power and Chairman, and representatives of the Central and State Governments, Union Territories, State Electricity Boards, Members of Parliament, Federation of Indian Chambers of Commerce and Industry, Federation of Electricity Undertakings of India, India Electrical Manufacturers Association, etc., as members with a view to establishing closer relations between supplies and users of electricity affording opportunities for consultation relating to the various aspects of power development in the country ; such as generation, transmission and distribution, and also the services provided by electricity undertakings.

RURAL ELECTRIFICATION CORPORATION LTD.—has been set up in the public sector on 25th July, 1969 with an initial capital of Rs. 10 crores. The present paid up capital of the company is 247.60 crores. The main objects of the Corporation are to finance rural electrification schemes to promote and finance rural electric corporation in India and to subscribe to special rural electrification bonds that may be issued by the State Electricity Boards.

RURAL ELECTRIFICATION—There are 5.76 lakh villages in India. The number of village electrified has gone up from 3,061 in March, 1951 to 3.70 lakh in January 1989. The number of irrigation pumping sets energised has increased from 18,700 in 1951 to 57 lakhs in January 1989. During the year 1988-89, achievement for village electrification and energisation of pumpsets has been 17,064 villages and 4,54,405 pumpsets respectively. The electrification of tribal villages and Harijan Bastis has been receiving special attention. Out of 1.11 lakh tribal villages, 59,740 had been electrified upto November, 1988. The number of villages in which start lighting facilities has been extended to Harijan Bastis was 2,05,590 upto November, 1988.

NUCLEAR PROJECT—Nuclear power is expected to play a progressively increasing part in meeting energy demands in future years. A nuclear power station is built at Tarapore, near Bombay with an installed capacity of 420 M.W. The following nuclear power stations are presently under construction ; Rajasthan Atomic Power Station (near Kota) 2 x 220 M.W., Madras Atomic Power Station (near Kalpakkam) 2 x 235 M.W. and Narora Atomic Power Station (U.P.) 2 x 235 M.W.

CENTRAL WATER AND POWER COMMISSION—See Index.

POWER RESEARCH—The Central Power Research Institute at Bangalore has been established for providing facilities for research and investigation in the fields of high voltage engineering, power system stability, electrical insulation, generation, transmission and distribution, etc. The institute has two divisions, one at Bangalore for undertaking research on problems connected with general electrical engineering and high voltage techniques and the other at Bhopal for switchgear testing and development. Financial assistance for the project was secured from U.N. Special Fund. There are two technical Centres at Kotah and Nagarjunsagar.

POWER SYSTEMS TRAINING INSTITUTE—at Bangalore impart training in load dispatch and systems operation techniques.

HOTLINE TRAINING INSTITUTE—also at Bangalore was set up in May 1975 for imparting training on hot line maintenance techniques to the employees of the State Electricity Boards.

Two Training Institute have been set up, one at Durgapur and the other at Neyveli to train personnel for operation and maintenance of the thermal power stations.

NATIONAL THERMAL POWER CORPORATION—was incorporated on 7 November, 1975 to supplement the efforts of the State Governments in the power generation programme. The authorised share capital of the Corporation is Rs. 6,000 crores. The main objectives of the Corporation are to prepare feasibility and project reports and construct, generate, operate and maintain thermal power stations.

NATIONAL HYDRO-ELECTRIC POWER CORPORATION LTD.—was registered in November 1975 and started its work in June 1976. The paid up capital of the company is Rs. 702.53 crores. It is formed to secure speedy, efficient and economical completion of the Hydro-electric Power Projects in the Central Sector.

NATIONAL PROJECTS CONSTRUCTION CORPORATION—was set up in 1957 as a joint venture of the Central Government and the State Governments. The present authorised Capital of the company is Rs. 25 crores. The company is engaged in execution of land and structural work for thermal and hydroelectric power stations.

NORTH-EASTERN ELECTRIC POWER CORPORATION—was established in October, 1976 for development of power infrastructure in the North-Eastern Region. The Authorised Capital of the Company is Rs. 200 crores.

DAMODAR VALLEY CORPORATION—was established in July, 1948. The main functions of the company are promotion and operation of schemes for irrigation water supply, drainage and for the generation, transmission and distribution of electrical energy both hydraulic and thermal. The Corporation has so far constructed four multipurpose dams which are located at Tilaiya, Konar, Maithon and Panchet. The installed capacity of the Corporation is 1649. M.W. The thermal power stations are at Bokaro, Chandrapura and Durgapur and the hydroelectric power stations are Tilaiya, Panchet and Maithon.

POWER FINANCE CORPORATION—The Power Finance Corporation was incorporated on July 16, 1986 as a public limited company under the administrative control of the Department of Power. It has been set up with the main objectives of providing term-finance for power projects. The Authorised share capital of the corporation is Rs. 1,000 crores. the paid up capital is Rs. 330.40 crores.

SOLAR ENERGY—Solar Energy and bio-gas offer the greater scope under conditions obtaining in India. Several of the projects involving the use of heat energy from solar radiation have been successfully completed. These include solar grain driers, solar milk driers, solar water heaters, solar kilns for timber drying etc. A 10 K.W. Demonstration Solar Power Generation Unit has been successfully developed.

TEHRI HYDRO DEVELOPMENT CORPORATION—Tehri Hydro Development Corporation was incorporated as a joint venture Public Sector Undertaking under Companies Act, 1956 on the 12th July, 1988 for execution of Tehri Hydro Power Complex in Uttar Pradesh. The Corporation with equity participation of Government of India and Government of Uttar Pradesh in the ratio of 75 : 25 (for the power component of the Tehri Complex), will also execute other hydroelectric projects in the region with the consent of the Government of Uttar Pradesh. The Corporation has an Authorised Share Capital of Rs. 1200 Crores.

NAPTHA JHAKRI POWER CORPORATION—Naphtha Jhakri Power Corporation is a joint venture of the Government of India and Government of Himachal Pradesh was incorporated on the 24th May, 1988 for execution of Naphtha Jhakri Power Project (6 x 250 MW) with equity participation of the two Governments in the ratio of 3 : 1. The Corporation has an Authorised Share Capital of Rs. 1,000 crores. The Corporation will also execute other hydro-electric projects in the region with the consent of the State Government.

HYDRO-ELECTRIC AND THERMAL PROJECTS

Presently, about 50 hydro-electric schemes with total installed capacity of 10,169.5 M.W. are under different stages of construction. The total installed generating capacity in utilities and non-utilities in the country at the beginning of 1986-87 was 50,059 M.W.

KOTHAGUDAM THERMAL POWER STATION—It is proposed to install thermal power station at Kothagudam coal Mines region in the Telengana areas of Andhra Pradesh.

DELHI ELECTRICITY SUPPLY UNDERTAKING—was completed during

September 1963. The total available power is 161 M.W.

DHUVARAN THERMAL POWER STATION—is located on the bank of the river Mahi at Dhuvaran in the Khaira district of Gujarat State. The first stage of the Project comprises four generating units of the 62.5 M.W. each. The project was completed in all respects in July 1965. The second stage of the scheme provides for installation of two additional units of 125/140 M.W.

BAIRA SIUL HYDRO-ELECTRIC PROJECT—with an installed capacity of 200 M.W. comprising three generating gets of 66 M.W. each envisages the utilisation of the river flows of Baira, Bhalehd and Siul in Himachal Pradesh for power generation at Punjari Power Stations. The Project has been estimated to cost Rs. 2,048.80 lakhs.

BHAKRA RIGHT BANK POWER STATION—utilises the power potential available at the Bhakra Dam.

YAMUNA HYDEL SCHEME—proposes to harness the river Yamuna and its tributary Tons in 2 stages. The first stage envisages construction of a barrage at Dakpathar, 2 miles downstream of the confluence of Yamuna and Tons, for diverting the water in to a power channel on which two power stations will be constructed with an installation of 3 units of 11,250 K.W. each (at Dhakrani) and 3 units of 17,000 K.W. each (at Dhalipur). The second stage envisages the construction of a diversion dam near village Inchari, utilising this water in power house I at Chibro with an installation of four units of 57 M.W. each and further utilisation of the tailrace water power house I in the power house II at Khodri with an installation of four units of 24 M.W. each.

DELHI THERMAL PROJECT—Three units of 50-62.5 M.W. each are being installed. A barrage across Yamuna is proposed to be constructed.

BHADRA HYDRO-ELECTRIC PROJECT—The Bhadra Hydro-electric project with an installed capacity of 33,200 K.W. is a major source of power supply in Karnataka.

RAMAGUNDAM THERMAL POWER STATION—is situated in the Telengana region and has an installed capacity of 37.5 M.W. comprising, three 12.5 M.W. units. The power stations was commissioned in 1957. However, owing to rapid growth of demand for power in this region, the extension of Ramagundam Power Station by a 62.5 M.W. generating unit was sanctioned under the Third Plan.

UPPER SILERU HYDRO-ELECTRIC PROJECT—The project utilises tail waters of the Machkund Power Station, comprise the construction of a diversion weir about 35 ft. high across the Sileru river in Andhra Pradesh, and a water conductor systems to the power station which will house 2 units of 60 M.W. each initially.

PAMBA-KAKKI HYDRO-ELECTRIC PROJECT—envisages tapping of the potential of the Pambi Valley in the Kerala State.

IDIKKI HYDRO-ELECTRIC PROJECT—envisages development of the hydro-electric resources of the Upeer Periyar Valley and is the biggest project in Kerala. The scheme envisages installation of five units of 100 M.W. each.

KUNDAH HYDRO-ELECTRIC PROJECT—The first two stages of the Project with an installed capacity of 180 mw. have already been completed, Third stage of the Project has already begun. It is financed by Canada. Stage III provides for the installation of a third generating unit at 20 mw. in the existing Power House No. 1 and fifth unit of 35 mw. in Power House No. II and one unit of 20 M.W. of 60 mw. each and one unit of 50 mw. three more power stations.

KOPILI HYDRO-ELECTRIC PROJECT—This project in the North-Eastern Region is being implemented by the North Power Corporation.

SALAL HYDRO-ELECTRIC PROJECT—with an installed capacity of 270 mw. comprising three generating sets of 90 mw. each envisages utilisation of flows of the Chenab in a run of the river basis at head of about 300 ft. for power generation in Jammu &

Kashmir: The Project has been estimated to cost Rs. 5515.94 lakhs.

METTUR TUNNEL PROJECT—Provides for utilisation of discharge of 20,000 cusecs from the existing Mettur reservoir by installing 4 units at the side of the existing Mettur Dam. The project will have four generating units of 50 mw. each.

NEYVELI THERMAL POWER PROJECT—The Project had been under erection since 1961 at Neyveli, South Arcot district about 140 miles from Madras city. The Russians have erected the units of 50 mw. each of this thermal station in the first stage.

KOYNA HYDRO-ELECTRIC PROJECT—was designed to be completed in three stages. The four units of stage I of the Project has been commissioned and handed over the State Electricity Board of Maharashtra. Work on four generating units of 75 mw. each, is in progress.

SHARAVATI VALLEY PROJECT—comprises construction of a storage dam in Mysore, 184-ft. high above the river bed and 6,860 ft. long. The Mahatma Gandhi hydro-electric scheme in the Sharavati Valley with a total capacity of 1,20,000 kw. was completed in 1952. The first stage of the Sharavati Valley Project started in the early part of the Second Plan consisted of installation of two units of 89,100 kw. each. The growing load demand has made it necessary to take up the second and ultimate stages of the project, with consists of six units of 89,100 kw. each and two units of the same capacity respectively.

BALIMELA PROJECT—on the Sileru river. It envisages utilisation of the tail waters of the existing Machkund power station in Orissa.

OBRA HYDRO-ELECTRIC PROJECT—envisages utilisation of the tailrace waters from Rihand power-station over a drop of 68. ft. of the Rihand river downstream of the Rihand Dam power station.

OBRA THERMAL POWER STATION—with five generation units of 50 mw. each at Obra in Mirzapur district of U.P.

RIHAND PROJECT—envisages the construction of a concrete gravity dam across the river Rihand near Pipri village in the Mirzapur district of U.P. The dam is 1,021.3 yards long and 102 yards high above the riverbed. The power house is designed to house six generating units of 50 mw. each.

LOKTAK HYDRO-ELECTRIC PROJECT—with an installed generating capacity to 70 mw. has been estimated to cost Rs. 1,025 lakhs. It is in Manipur.

BANDAL THERMAL POWER STATION—is located near Bandel about 35 miles north of Calcutta, close to the river Hoogly by the side of the Bandel-Barharwa railway line. The station will comprise 4 units of 75.825 mw. each. An amount of Rs. 7 crores would be spent on Bandel 5th units of 200 mw. during the first year of the Fifth Plan.

TRISULI PROJECT—comprises the construction of a diversion weir across the Trisul river which rises in Tibet 45 mile north of Trisul. Foreign exchange is being paid by the Nepal Govt. but equivalent amount in rupees against it is paid to the Government of Nepal by the Government of India. King Mahendra of Nepal inaugurated this 14-crore Project on February 24, 1967. Designed to generate at 21,000 kw. of power, the current output of 9,000 kw. from three turbines already installed raised the installed hydel capacity of Nepal to eight-fold. Four more generators of 3,000 kw. each are to be installed under the second installment of the Indian programme.

UMIAM HYDRO-ELECTRIC PROJECT : STAGE I—involves construction of a 210-ft. high dam on Umiat river in the Khasi Hills in Assam and installation of four generating units of 9 mw. each. Stage II envisages installation of 2 x 9 mw. units of Umiat and additional unit of 2.8 mw. Umtru Power House.

LOWER JHELMUM HYDRO-ELECTRIC PROJECT—is located in Baamulla district on river Jhelum. In the first stage four units of 16 mw. each will be installed and three more units of the same capacity will be added later.

KORBA THERMAL POWER STATION : STAGE II—The Project envisages installation of four additional units of 50 mw. each in the existing Korba Power House near Chamba in Bilaspur district of M.P.

AMARKANTAK THERMAL POWER STATION—The scheme involves installation of two units of 30 mw. each. The power station is completed and both the generating units have been commissioned in January 1965.

BADARPUR THERMAL POWER STATION—The first stage consists of the installation of 3 x 150 mw. units a provision for extension up to 4 x 150 mw.

MACHKUND PROJECT—This hydro-electric project is joint venture of the Government of Andhra Pradesh and Orissa.

KOEL KARO H.E. PROJECT—comprises a complete network of 4 power stations of 732 mw. capacity and a 11.2 mw. diameter 2200 m. long tunnel.

NAPTHA JHAKRI H.E. PROJECT—envisages generation of 1020 mw. hydro-power utilising a gross head of 483 meters by means of a diversion dam across the Sutlej river, a 28 km. long head race tunnel and an underground power house.

KALINADI H.E. PROJECT—has installed capacity of 810 mw. at a rated of about 350 metres.

NAMRUP THERMAL PROJECT—The scheme comprises the installation of 3 x 23 mw. Gas Turbine sets at Namrup in Assam by utilising the natural gas available from the Naharkatia gas and oil fields.

SRISAILAM PROJECT—The Project envisages the construction of : (1) a dam across Krishna river near the famous Srisailam shrine 385 ft. high above bed level and 1,685 ft. long to impound the water of the river, (2) a power house at the top of the dam to accommodate ultimately seven units of 110 mw. each (3) transmission lines and sub-stations.

BADARPUR THERMAL POWER STATION—envisages the construction of thermal power station, initially with three units of 100 mw. each, at Badarpur near Delhi, at an estimated cost of about Rs. 40 crores.

BARAUNI THERMAL POWER STATION—The first stage of the Barauni Thermal Power Station, with two sets of 15 mw. each has been commissioned. In the second stage, to increase the firm capacity of the power station to 30 mw. to meet the demand of the oil refinery, a third unit of 15 mw. and two more units of 50 mw. each are being added to meet the urgent load demands in North Bihar.

PATHRATU THERMAL POWER STATION—is to cost Rs. 46.97 crores for supplying power to the Heavy Engineering Corporation at Hatia at Hazaribagh district of Bihar. The Project provides for installation of four generating units of 50 mw. each and two units of 100 mw. each.

SATPURA THERMAL POWER STATION—is joint project of Rajasthan and Madhya Pradesh. Five generating units each of 62.5 mw. capacity are being installed in the power station.

TALCHER THERMAL POWER STATION—envisages the construction of a thermal power station with an installed capacity of 250 mw. (4 generating units of 62.5 mw. each).

SANTALDHI THERMAL POWER STATION—First 120 mw. unit of the station was commissioned in 1973. The Second, Third unit has already been commissioned.

JALDHAKA AND KURSEONG STAGE II PROJECT—On completion these will generate an additional 10 mws.

KOLAGHAT THERMAL POWER STATION—Work on 3 units of 200 mw. each is in progress.

DEVELOPMENT OF SOLAR ENERGY—This has in recent years emerged as an important component of the energy policy. Development of Solar pumps has been accorded a very high priority in view of its potential use in the agricultural sector. In collaboration with F.R.G. work has also been started to establish a 10 kw. Power Plant.

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AGRICULTURE

IMPORTANCE OF INDIAN AGRICULTURE—India is one of the leading agricultural countries in the world and one of the biggest sources of its wealth is its produce from land. 90.5 % of the total working force earns its livelihood from agriculture.

Average size of a land holding is 3.0 hectares. The ultimate area which can be irrigated from major and medium irrigation schemes is estimated at 45 million hectares (112 million acres).

India ranks first in the world in the production of groundnuts and tea and enjoys a virtual monopoly in the production of lac. It is the second largest producer of rice, jute, raw sugar, rapeseed, sesamum and castor-seed.

ADMINISTRATIVE SET-UP—The Department of Agriculture and Co-operation is one of the Departments in the Ministry of Agriculture under the charge of the Union Minister of Agriculture, Rural Development and Civil Supplies who is assisted by a Minister of State. Secretary (Agri. and Coop.) who heads the Departments, is assisted by three Additional Secretaries and twelve Joint Secretaries and technical offices like the Inspector General of Forests, the Agricultural Commissioner, the Animal Husbandry Commissioner, Fisheries Development Commissioner, Horticultural Commissioner, the Economic and Statistical Adviser, Commission for Agricultural Costs and Prices and the Plant Protection Adviser. There are twenty four functional Divisions and three Cells in the Department concerned with different aspect of agricultural development. The Department has three Attached Offices, sixty Sub-ordinate Offices, two Public Sector Undertakings, seven Autonomous Bodies and twelve National level Co-operative Federations and the National Dairy Development Board.

FOOD CORPORATION OF INDIA—is the sole-agency of the Central Government for State trading in foodgrains. It is also carrying out regular quality control operations in respect of both imported and indigeneous foodgrains in its various storage deposits.

NATIONAL COMMISSION OF AGRICULTURE—was set up in Oct. 1970 to enquire into the progress, problems and political in Indian agriculture.

SOIL OF INDIA—See Index.

CROPS—The crops of India are usually classified as follows : (1) Food crops such as rice, wheat, barley, millets, pulses and grams, sugarcane and spice ; (2) Oilseeds, such as linseed, rape and mustard, sesamum, castor, groundnut and coconut ; (3) Fibres, such as cotton, jute, hemp and flax ; (4) Drugs and Beverages, such as poppy, cinchona, tobacco, tea and coffee. About three-fourth of the cultivated land is used for food crops and the rest for cash crops.

CROP SEASON—There are two well-defined crop seasons, : Khariff and Rabi. The Khariff crops is harvested from Nov. 1 to Oct. 31 and Rabi crops from May 1 to April 30. The major Khariff crops includes rice, jowar, bajra, maize, cotton, sugarcane, sesamum and groundnut. The major Rabi crops are wheat, barley, gram, linseed, rape and mustard.

YIELD OF CROPS—India's yield per acre is low. On average, a hectare of land yields 1070 kgs. of rice, 900 kgs of wheat, 453 lb. of jowar, 309 lb. of bajra, and 503 lb. of jute. The yield of groundnut is 870 kgs. per hectre, of cotton 120 kgs. and of sugarcane (raw sugar) 4840 kgs.

Agriculture Research and Education—At present there are 26 agriculture universities in the country. The number of institutions undertaking research, extension work and training but without university status is 93. There are 42 post-graduate colleges for agriculture education and 20 vaterinary post-graduate colleges.

Agricultural research, animal husbandry and forestry are carried on by the Indian Council of Agricultural Research, Central Research Institutes and Commodity Committees.

The Indian Council of Agricultural Research which was set up on 16th July 1929. It is an apex organisation for all agricultural and animal husbandry research and education in the country with 43 institutes in operation. In addition to the 10 National Research Centres, 10 more have been cleared by the Project Implementation Committee. There are 4 National

Bureaux, 68 All-India Co-ordinated Research Project, 9 Project Directorates, 4 Projects on Agricultural Extension and 5 Projects from the Agriculture Production Funds.

NATIONAL ACADEMY OF AGRICULTURAL RESEARCH MANAGEMENT—Organised 5 workshops, 8 short courses and 1 seminar during the year 1988-89.

AGRICULTURAL SCIENTISTS RECRUITMENT BOARD—was set up in Dec. 1973, with the approval of the G.I. as an independent recruiting agency of the ICAR. During 1989 the ASRB conducted all-India Competitive examination to recruit 459 posts of Scientists Grade 1 in 47 professional subjects.

RESEARCH INSTITUTE—India's largest agricultural research institute is the Indian Agricultural Research Institute, established on April 1, 1905 at Pusa, now at New Delhi. The Institute, has been accorded the status of a University. The Central Rice Research Institute, Cuttack, carries on fundamental and applied research and imparts training to post-graduate students for the improvement of rice products. The Central Potato Research Institute, Simla, is engaged in evolving improved varieties of potatoes. The Central Vegetable Breeding Station at Kulu has been experimentally on the adoption of European vegetable for Indian conditions. The Indian Institute of Sugar Technology at Kanpur, established in 1936, conducted research in different branches of sugar technology. The Indian Institute of Sugarcane Research, established in 1922 at Lucknow is now Institution from Jan. 1, 1954. The Sugarcane Breeding Institute, Coimbatore and its sub-station at Karnal carry on valuable investigations. The forest Research Institute at Dehra Dun opened in 1914, is engaged in research on silviculture, forest botany, entomology, the seasoning preservation and the technology of wood, timber mechanics, and cellulose and paper-pulp chemistry and on minor forest products. There is another Forest College at Coimbatore for the training of forest officers. The Indian Veterinary Research Institute at Izatnagar and Mukteswar, established in 1890 carry on activities pertaining to research, teaching manufacture of veterinary biological products and advisory work. The National Dairy Research Institute at Bangalore trains students for diploma course in dairying and conduct research on dairy problems. A National Research Institute at Karnal (Punjab) has been started to carry on research work on the quality of milk. It has a Dairy Science Colleges. Another important research station is the Indian Lac Research Institute at Numkum (Ranchi), which is engaged in research on lac. Regarding fishery research, the three important stations are: the Central Inland Fisheries Station, Calcutta, the Central Marine Research Station, Mandapam, and the Deep-Sea researches respectively are being carried on. The Central Fisheries, Technological Research Station at Cochin initiates Deep-Sea Fishing Station at Bombay, continues exploratory fishing gear and craft and fishing method. The offshore Station at Cochin, Tuticorin and Visakhapatnam continue their activities satisfactorily. Several Agricultural Universities have been established in the country. Central Soil Salinity Research Institute has been established at Karnal, with a view to developing the technology for reclaiming saline soils for making them highly productive.

COMMODITY COMMITTEES—operate and subsidise a number of research schemes at various research stations and sub-stations. These Commodities are financed by a cess levied on the particular commodity.

- (1) Indian Central Cotton Committee at Matunga, Bombay.
- (2) Indian Central Jute Committee continues to improve the yield and quality of jute by evolving new varieties and improving the culture and setting techniques.
- (3) Indian Central Oilseeds Committee continues schemes for agricultural and technological research, marketing and development of village oil industries.
- (4) Indian Central Sugarcane Committee maintains the Indian Institute of Sugar Technology at Kanpur. The other two Institutes are the Indian Institute of Sugarcane Research, Lucknow and Sugarcane Breeding Institute, Coimbatore.
- (5) Indian Central Coconut Committee has research stations at Kasargad and Kayangulam.
- (6) Indian Central Arecanut Committee has Central Arecanut Research Station at Vital and several regional research stations.

(7) Indian Central Tobacco Committee carries on research on various of tobacco at its Institute at Rajamundry (A.P.) as well as its research and sub-stations.

(8) Indian Lac Cess Committee, Namkum (Ranchi) carried on research on lac.

(9) Indian Central Spices and Cashewnut Committee was established in 1961 with all aspect of research, development and marketing of spices and cashewnuts.

(10) All India Cattle Show Committee, Karnal (Punjab).

AGRICULTURAL DEVELOPMENT PROGRAMMES—Schemes for agricultural development are as follows :—

Minor irrigation scheme will maintain existing irrigation works carry on construction of field channels and look after surveys and irrigations. Tubewells are being drilled. An extensive ground-water exploration has been undertaken.

Various soil conservation programmes are being carried on. Other soil conservation programmes include reclamation of water-logged, saline and Alkine lands. Contour-building and terracing are also being carried on, so also dry farming. Afforestation and other soil conservation measures in catchment areas of river valley projects are being carried on. Schemes of the production of manures and fertilizers are being implemented everywhere. Schemes for the utilization of sewage and sullage are in operation in important towns. For the development of local manurial resources- (1) compost production has been intensified and (2) night soil composting has been taken up. The distribution of green manure seeds and of nitrogenous fertilizers, under Central Fertilizer Pool is being extensively carried on. Bonemeal is being manufactured and price control for fertilizer materials. Under on Order of Essential Commodities Act, 1955 ban was imposed on inter-State movement of ammonium sulphate, urea, ammonium nitrate etc.

As for Plant Protection and Locust Control, the Directorate of Plant Protection, Quarantine and Storage assists the State and Territories with technical advice, equipment and personnel and controlling crop pests and disease through its 17 Central Plant Protection Stations.

Intensive Agriculture District Programme (Package Programme) was initiated during 1961-62 for demonstrating the potentialities of increasing food production through a multi-pronged, concentrated and co-ordinated approach to agricultural development in area which are responsive to intensive production efforts. Under the programme each farmer is assisted to develop a crop plan for his holding.

A programme known as the Intensive Agricultural Area Programme was taken up in 117 districts. A Central Mechanical Farm, with an area of about 30,000 acres, was established at Suratgarh in Rajasthan in 1956.

There is a Tractor Training and Testing Station at Bundi. A second Tractor Training and Testing Centre has been established at Hissar in Punjab.

The Agricultural Refinance and Development Corporation was inaugurated on July 1, 1963. The Corporation has an authorised capital of Rs. 25 crores. Agricultural Finance Corporation guides major commercial banks to take up special projects for agricultural development.

Agricultural Finance Corporation's main activities are on project formulation in backward areas and for the weaker sections of the country on a consultancy basis.

The total institutional credit for agriculture and allied purposes was Rs. 2250 crores at the end of June 1980.

Agricultural Prices Commission recommending procurement/support prices in the "terms of trade" between the agricultural and non-agricultural sectors. This has been a guiding factor in agricultural price policy.

A National Bank for Agriculture and Rural Development is being established which will function as an apex institution in the field of agricultural and rural credit.

The Central Warehousing Corporation was constituted on March 2, 1957 and started functioning in July that year. The Corporation was reconstituted with effect from March 18, 1963. The main aims and objects of the Corporations are : (a) to help storage of

agricultural produce and other commodities ; (b) to assist the depositor to secure cheap credit, avoid distressselling and sell his produce as and when the market is favourable to him. The main functions of the corporation are : (a) to acquire and build godowns and warehouses at suitable places in India ; (b) to run warehouse for the storage of agriculture produce, seeds, manures, fertilizers, agricultural implements ; (c) to arrange facilities for the transport of agriculture produce, seeds, manures, fertilizers, agricultural implements ; (d) to subscribe to the share of capital of a State Warehousing Corporation. The authorised capital of the Corporation is Rs. 20 crores. The Corporation had set up 429 warehouses and 39 sub-warehouses.

A Small Farmers Scheme has been taken up to improve the social condition of the small farmers as also to spread the adoption of new technology for increasing agricultural production over large areas. Small Farmers Development Agencies would be set up in the selected districts. These Agencies have been already approved for the districts of Darjeeling (West Bengal), Purnea (Bihar) and Chindwara (M.P.).

The State Farms Corporation of India, a public sector undertaking was set up in May 1969 with an authorised capital of Rs. 7 crores with a view to establishing and running agricultural farms for production of seeds and foodgrains, fibre, crops, plantation crops etc.

Agro-industries corporation have been established in almost all the States. They not only undertake manufacture, processing etc. but also endeavour to popularise agricultural machinery and implements by promoting hire-purchase schemes.

The National Seeds Corporation Ltd., was incorporated in March 1973, with the object of producing, selling and distribution agricultural seeds, establishing seed farms and introducing seed quality control measures. The Corporation commenced its business in July 1963. The authorised capital of the Corporation is Rs. 5 crores. The Tarai Seed Development project aided by the World Bank for the production of quality seeds commenced during 1969-70. The outlay under the Sixth Five Year Plan (1980-85) for seed programme has been allotted Rs. 40.86 crores against Rs. 14.49 crores in draft Sixth Five Year Plan (1978-83).

A programme for the intensification of rice production in 40 selected districts on "package" basis has been initiated. The "package" approach is also being extended to cotton, oilseeds and other important commercial crops.

The Field Problems Units were set up under the Agricultural Production Project with the technical assistance from the USAID in the States of Andhra Pradesh, Bihar, Gujarat, Maharashtra, Karnataka, Orissa and Tamil Nadu, and are functioning since 1967-68 as a support to high yielding varieties programme. Each Field Problems Unit comprises one U.S. expert and two Indian counterparts—one from the State Department of Agricultural and the other from agricultural university. In Andhra Pradesh, these Units have been terminated in September 1971. However, the project is proposed to be extended to the State of Madhya Pradesh. These Units are engaged in developing implementing activities concerned with the early recognition to field problem thrown by introduction of high yielding varieties of crops, finding solution for them and extension of the proven agriculture technologies among the farmers.

Integrated Development of Dry land Agriculture—Major Portion of the agriculture in India is in dry land areas. These areas are backwards because of poor return and instability in yields due to uncertain rainfall and lack of irrigation facilities. The breakthrough achieved in irrigated areas has to be extended to these dry areas to ensure social justice and equality. Accordingly, a Centrally sponsored scheme for Integrated Dry Land Agriculture Development has been undertaken from 1970-71. Under this scheme, 24 pilot projects have been sanctioned in 12 States. These projects are in the nature of Training-cum-Demonstration projects and are being implemented by the State Governments in collaboration with the ICAR's Main/sub-Research Centres. The programmes being undertaken include soil and moisture conservation practices, new techniques or fertilisation including foliar application, adoption of plant protection measures, water harvesting, etc. In view of the special nature of these programmes and weak economic position of farmers

in these areas. Incentives in the shape of loans and subsidies for various operations involved have been provided to the participating farmers.

There are certain special programmes, such as Small Farmers Development Agency, Marginal Farmers and Agricultural Labour, Integrated Dry Land Agricultural Development, Drought Prone Areas Programme, Cash Scheme for Rural Employment and Agro-Service Centre.

In the new 20 point programme, the Development of Agriculture and Co-operation is concerned with the following items :

- (i) Development and dissemination of the technologies and inputs for dry land agriculture.
- (ii) Making special efforts to increase production of pulses and vegetable oilseeds.
- (iii) Accelerating special programmes for the development of Scheduled Castes and Tribes.
- (iv) Pursuing vigorously programmes of afforestation, social and farm forestry and the development of bio-gas and other alternative energy sources.
- (v) Liberalising investment procedures and streamline industrial policies to ensure timely completion of projects.

(vi) Improving the working of the public enterprise by increasing the efficiency, capacity utilization and the generation of internal resources.

Thrust Programme during 1989-90 : (i) Special Rice Production Programmes for increasing production and productivity in Eastern States—under the programme, emphasis will be laid on the speed of improved rice production technology through the training of farmers and farm labourer including women and organisation of field demonstrations.

(ii) Special Foodgrains Production Programme—in fourteen States includes rice, wheat, maize, gram (chick-pea) and Arhar (pigeon-pea).

(iii) National Pulses Development Programme—thrust is given to crop and area specific schemes with regard to major pulses like gram, arhar, peas, lentil, moong and urad.

(iv) National Oilseeds Development Project and Oilseeds Production Thrust Project—includes organising demonstrations, production of foundation seeds and pre-positioning of certified seeds, minikit demonstration production of certified seed of groundnut and soyabean to farmers, opening of additional retail outlets, in interior areas, prepositioning of plant protection chemicals, supply of plant protection equipments, arrangement of plant protection in mobile areas.

(v) National Watershed Development Programme for Rainfed agriculture.

(vi) Assistance to Small and Marginal farmers.

(vii) Intensive Cotton Development Programmes.

(viii) Special Jute Development Programmes.

(ix) Centrally Sponsored Programme on Reclamation of akoli soils in Haryana, Punjab and Uttar Pradesh.

AGRICULTURAL MARKETING—in India is promoted by the Directorate of Marketing and Inspection. Their activities are : (a) grading and standardisation of agriculture commodities ; (b) regulation of markets practices ; (c) marketing investigation and surveys ; (d) training of agricultural marketing personnel ; (e) administration of the Fruit Products order, 1955.

CROP PRODUCTION IN 1987-88

The country faced one of the severest droughts during kharif 1987-88. Only 14 meteorological Sub-divisions out of 35 had excess or normal rains in the South-West monsoon season as compared to 16 in 1965 and 19 in 1979 which were severe drought years in the past. Around 269 districts suffered deficient or scanty rainfall. The worst affected States were Gujarat (Saurashtra) and Rajasthan (West Region). Parts of Tamil Nadu, Uttar Pradesh, Orissa, Karnataka and Andhra Pradesh were also affected due to moisture stress.

The production of kharif rice declined from 53.56 million tonnes in kharif 1986 to 48.76 million tonnes in kharif 1987 i.e. decrease of 9 per cent. The production of bajra declined from 4.51 million tonnes in 1986 to 3.28 million tonnes (27.35%) in 1987 ; that of maize

from 7.59 million tonnes in 1986 to 5.63 million tonnes (25.9%) in 1987. Kharif jowar, however, registered an increase of 29.3 per cent over the previous year's production. It increased from 6.47 million tonnes to 8.36 million tonnes in 1987-88. The total foodgrains production in kharif declined from 80.20 million tonnes in 1986 to 73.89 million tonnes (7.9%) in 1987. Similarly, the production of kharif groundnut declined from 4.43 million tonnes in 1986 to 4.01 million tonnes (9.4%) in 1987.

Wheat is the major crop grown in rabi season. The average area under this crop is 23 million ha. out of which 18 million ha. is under irrigation, and on the remaining 5 million ha., the crop is grown under "Barani" conditions. On account of deficient rain-fall, at the sowing time, there was some shortfall in the coverage of area in the States of Haryana, Punjab, Uttar Pradesh, Gujarat and Rajasthan. However, this was compensated to a great extent due to increase in area in Bihar and Madhya Pradesh. Total coverage in the country was 22.60 million ha. as against 23.13 million ha. in 1986-87. The total production, however, increased from 44.32 million tonnes in 1986-87 to 45.09 million tonnes in 1987-88.

The overall foodgrains production in rabi season recorded an increase of 1.31 million tonnes over the previous year's rabi production. It increased from 63.21 million tonnes in 1986-87 to 64.52 million tonnes in 1987-88.

Despite the worst weather conditions in 1987-88, the total foodgrains production in the country was 138.41 million tonnes which was only 5 million tonnes less than the production of 143.41 million tonnes in 1986-87 representing a decline of only 3.5 per cent.

As regards rabi oilseeds, the area coverage increased by about 20 percent. It increased from 7.12 million ha. in 1986-87 to 8.53 million ha. The major contributions were made by sunflower, rabi groundnut, rapeseed and mustard and safflower. The production of rabi oilseeds also increased by about 25 per cent from 4.89 million tonnes in 1986-87 to 6.10 million tonnes in 1987-88.

The total production of oilseeds in 1987-88 increased to 12.38 million tonnes from the level of 11.27 million tonnes in 1986-87—an increase of about 10 per cent.

There was increase, both in area and production of sugarcane in 1987-88 over the previous year. The area increase from 30.79 lakh ha. in 1986-87 to 32.87 lakh ha. in 1987-88 registering an increase of about 7 per cent. Similarly, the production increased from 186.09 million tonnes to 196.72 million tonnes—an increase of about 6 per cent. The major increases were reported from Uttar Pradesh, Andhra Pradesh, Maharashtra, Bihar, Madhya Pradesh, Gujarat, Orissa and Tamil Nadu. However, the States of Haryana, Karnataka, Punjab, Rajasthan, Assam and West Bengal reported decline in production.

The production of cotton recorded a decrease of about 7 per cent in 1987-88. It declined from 69.05 lakh bales in 1986-87 to 64.32 lakh bales in 1987-88. The decrease in production was reported mainly from Gujarat, Rajasthan, Haryana and Andhra Pradesh. The decrease was, however, offset to a large extent by the increase reported from Maharashtra, Tamil Nadu, Punjab, Karnataka and Madhya Pradesh.

There was considerable decrease in area and production of Jute and Mesta in 1987-88 as compared to 1986-87, reported by all the major jute and mesta growing States. The area declined from 10.68 lakh ha. to 9.60 lakh ha. and production from 86.26 lakh bales to 67.82 lakh bales.

The crop-wise scenario is given below :—

Rice

All the major rice growing states received adequate rainfall. However, the Chhatisgarh area of Madhya Pradesh and Western districts of Orissa received lesser rainfall. In these areas weeding/inter-culture operations under the rainfed rice were affected to some extent. Further, there was also some damage due to floods in some of the states especially Assam, Punjab and Haryana and on account of inundation of the Godavari delta in Andhra Pradesh. The best production of rice so far during kharif season has been 59.4 million tonnes in 1985-86. Keeping in view the larger coverage of area and increase in fertiliser consumption, it is expected that the rice production target of 61.5 million tonnes for the kharif season will not only be achieved, but may even be exceeded by about 2 million tonnes.

Coarse Cereals

Against the normal coverage of 32 million ha. this year coverage under coarse cereals is estimated around 33 million hectares. However, in Rajasthan, the late sown crops at the crucial flowering stage and early sown bajra crop at grain filling stage faced acute moisture stress. Elsewhere in Haryana, Uttar Pradesh and Madhya Pradesh, the low moisture condition till mid September in some parts affected the yield. Taking into account the coverage of better varieties and overall weather condition, it is assessed that coarse cereals production will reach at least the targeted level of 26.5 million tonnes and may even exceed by one million tonnes raising the total production to 27.5 million tonnes.

Pulses

Arhar, moong and urad are the major pulses grown in kharif season. During this season, the coverage area has been reported to be around 11.4 million ha. against the normal area of 11.0 million ha. There has been some damage to pulse crops due to excess rains in black soil zones. One redeeming feature this year has been that no major pest incidence of 'Podborer' has been reported from any part of the major pulses growing regions. Keeping in view the larger coverage of area and overall conditions, it is expected that the production of pulses during kharif 1988 may be higher than the target of 4.5 million tonnes.

Oilseeds

The coverage of area under oilseed crops is reported around 116 lakh ha. as against the normal area of 114 lakh ha. under kharif oilseeds. The important oilseed tract in Gujarat, Andhra Pradesh, Madhya Pradesh, Karnataka, Maharashtra, and Orissa received good rains. However, sowings of groundnut in parts of Tamil Nadu and castor in Andhra Pradesh, niger in Orissa, sunflower in Karnataka and Maharashtra and soyabean in Madhya Pradesh were delayed due to incessant rains. There has been no report of any major pest incidence except in some parts of Gujarat and Karnataka. The production is estimated to be more than the normal production of 66 lakh tonnes in the kharif season.

Pulses

During rabi season, gram, lentil, lathyrus, peas, rabi moong and urad are mainly grown in an area of about 125 lakh ha. on account of better availability of soil moisture, the area coverage under rabi pulses is expected to be higher.

Total Foodgrains

In the light of the above situation, the indications are that as against the official target of 166.57 million tonnes, the foodgrains production in 1988-89 is likely to exceed 170 million tonnes (about 95 million tonnes in kharif and 76 million tonnes in Rabi).

Oilseeds

Rapeseed, mustard, linseed, groundnut, safflower and sunflower are grown over an area of about 78 lakh ha. during rabi season. The rainfed oilseeds crops in the States of Maharashtra, Orissa, Andhra Pradesh and Karnataka faced soil moisture stress. Toria crop coverage in Punjab and Haryana has been adversely affected due to heavy rains in late September. However, it is quite satisfactory in Uttar Pradesh where about 3 lakh ha. have been sown. The crop condition is satisfactory and no serious incidence of disease and pests has been reported. The production prospects of the rabi oilseeds appear to be bright.

An area of about 33 lakh ha. is reported to have been covered this year and production is expected to be around 210 million tonnes which will be a record.

Cotton

Heavy incessant rains in parts of Punjab, Haryana, Maharashtra and Gujarat and cotton pests incidence in Andhra Pradesh have affected the production of cotton crop to some extent. An area of about 73 lakh ha. is estimated to have been covered against the normal of 74-75 lakh ha. The production is anticipated around 90-95 lakh bales as against the target of 97.8 lakh bales.

Jute & Mesta

Jute is grown in the states of West Bengal, Bihar, Assam, Tripura, Uttar Pradesh and Meghalaya. Mesta is mainly grown in Andhra Pradesh. This year the weather was congenial

at the sowing time. However, the coverage of area is reported to be less than normal due to diversion of area to some other crops. In the later part of the crop season, there were floods which damaged the crop in Assam and the northern part of West Bengal. As a result, the total production of raw jute (Jute and Mesta) is estimated at about 72 lakh bales as against the target of 92 lakh bales.

Coarse Cereals

The coarse cereals are grown in about 7.6 million ha. in rabi season. The important crops are jowar and barley. Because of high productivity during rabi/summer season, a sizeable area is brought under rabi maize also in the States of Karnataka, Bihar and eastern parts of Uttar Pradesh. Ragi is also grown in rabi season in these States wherever irrigation facilities exist. The production target has been fixed at 6.5 million tonnes. The crops in the central states are facing moisture stress due to early cessation of monsoon rains and further absence of winter rains.

Rabi/Summer Rice

Rabi/summer rice is grown in the country in about 2 million hectares. Major states growing this crop are Andhra Pradesh, West Bengal, Orissa, Karnataka and Tamil Nadu. The target fixed for 1988-89 is 6.45 million tonnes.

Rabi/summer rice is largely grown as an irrigated crop with high yielding varieties and good fertiliser use. This crop is expected to benefit from the satisfactory levels of storage in the irrigation reservoirs, ground water re-charge and extra moisture in the soil.

Sugarcane

Sugarcane is cultivated over an area of 30-32 lakh ha. both in sub-tropical and tropical regions of the country. In the sub-tropical belt, main sugarcane growing States are Bihar, Uttar Pradesh, Haryana and Punjab which occupy nearly 20-21 lakh ha. The tropical belt mainly comprises, Maharashtra, Andhra Pradesh, Tamil Nadu and Karnataka covering nearly 10-11 lakh ha. under sugarcane.

The production target for the year 1988-89 is 1950 lakh tonnes. During 1988-89, the production of sugarcane is likely to be about 2100 lakh tonnes. The production target for the end of the Seventh plan is 2,170 lakh tonnes. For achieving this target, major emphasis will be to increase the productivity of sugarcane rather than increasing the area under the crop. The productivity of sugarcane is envisaged to be increased to 62 tonnes per ha.

Tobacco

Tobacco is an important cash crop in India. It is cultivated over an area of about 4.0 lakh ha. The country accounts for about 10.4 per cent of world area, 7.6 per cent of world production and 6.0 per cent of world export trade in tobacco. In production, India has the third place after USA and China whereas in area coverage, it is second to China. Tobacco grown in India can broadly be classified into two groups viz. Virginia and non-Virginia. Non-Virginia tobacco is used in the manufacture of bidis, cigar, cheroots, hookah, and for chewing and snuff purposes.

The annual production of tobacco is ranging between 400 and 450 million kg. of which the production of VFC tobacco accounts for nearly 115 million kg or nearly 25 per cent of the total. The principal VFC tobacco growing States are Andhra Pradesh, Karnataka and West Bengal. Among these States, Andhra Pradesh is the major producer of VFC tobacco. Although tobacco occupies 3 per cent of the total cropped area in the country, it contributes substantially to the national exchequer. According to the reports, the area under tobacco during 1987-88 is likely to be 4 lakh ha. which includes 86,000 ha of VFC tobacco in Andhra Pradesh and Karnataka. The production of tobacco during the 1988-89 is likely to be 400 million kg.

For production and distribution of pure seed and seedlings of various types of tobacco, schemes are implemented through Andhra Pradesh State Seeds Development Corporation, Gujarat Agricultural University and Haryana Agricultural University. Besides, Special Training Programmes for the farmers are organised at the Bidi Tobacco Research Station at Anand and the Tobacco Research Station at Dinhat.

HORTICULTURE

Fruits

The target of production of fruits in the Seventh Five-year plan is 280 lakh tonnes. The estimated production of fruits during 1984-85 was 235 lakh tonnes. Two Centrally Sponsored Schemes, namely, package programme on Banana in Goa and Package Programme on Pineapple in Arunachal Pradesh and Andaman and Nicobar Islands are in operation. Under these schemes, it is envisaged to lay out 180 demonstration plots for pineapple and 31 demonstrations for Banana besides bringing an area of 100 ha. under Package Programme for Banana during 1988-89. An outlay of Rs. 11 lakh has been provided for these schemes for the year 1988-89.

Apple is the major temperate fruit of the country. Various production strategies have been developed, keeping in view the potential and demand for apple. A Centrally Sponsored Scheme on Improved Quality Apple Production is being implemented in the States of J&K, Himachal Pradesh, Uttar Pradesh and Arunachal Pradesh. Assistance is provided under the scheme for purchase of anti-hailnets, micro-nutrients, power and foot sprayers. It is targeted to distribute 190 power sprayers, 2020 foot sprayers, besides covering an area of 920 ha. under micro-nutrients and make available 100 anti-hailnets. National Horticulture Board has established an Apple Development Fund for development of apple industry in North-West Hill Region of the country.

An Apple Demonstration Farm of 50 ha. will be set up in Jammu and Kashmir with the assistance of Bulgaria. In this farm, 25 ha. will be covered under Red Delicious spur variety of apple imported from Bulgaria. In the remaining 25 ha. indigenous Ambri variety will be grafted on root-stock imported from that country.

An Indo-Italian Project on temperate climate fruit crops is being implemented since 1984 in the States of Jammu & Kashmir, Himachal Pradesh and Uttar Pradesh. The temperate fruits covered under the project are olive, hazelnut, almond and walnut.

A Central Sector Scheme for Establishment of Elite Progeny Orchards is being implemented at 10 farms of the State Farms Corporation of India (SFCI). Under the scheme, Elited Progeny Nurseries have been set up for production and supply of high yielding planting material of proven quality and for demonstration of improved horticultural practice. An area of 283 ha. has been covered under the programme. A total of 3,36,000 saplings are to be produced during the current year.

The National Horticulture Board is also implementing a project on production and supply of quality planting material of fruit trees at a total cost of Rs. 59.18 lakh for a period of three years. Under the project 21 Government Fruit Nurseries/Progeny Orchards in 15 States are being strengthened for production of pedigree plants of mango, citrus, apple and litchi.

Vegetables

A contingency plan for increasing production of vegetables in 267 drought affected and 59 flood affected districts in 26 States/Union Territories through distribution of minikits/vegetable seeds, etc. was implemented in Kharif, 1988. Under the Scheme, 3.26 lakh minikits of vegetables seeds etc. were to be distributed. A scheme for increasing production of certified vegetable seeds at 26 Agricultural Universities is also being implemented. Each University will produce improved vegetable seeds in 4 ha. area.

The Scheme, National grid of market information service of fruits and vegetables of commercial importance of the National Horticulture Board, which was sanctioned by Governments of India in 1987-88 at a total cost of Rs. 101.80 lakh, has been put into operation in 1988-89, since staff could join and assume duties this year only. 20 important terminal markets of the country are being interlinked for collection and dissemination of data relating to daily rates, market trend/behaviour of fruits and vegetables of commercial importance. The Market Information Service in 15 important markets viz. Bangalore, Bombay, Calcutta Chandigarh, Delhi, Guwahati, Jalandhar, Lucknow, Madras, Nagpur, Patna, Shimla, Srinagar, Trivandrum and Vijayawada has become operational. For dissemination of the information gathered a

beginning has been made by broadcasting daily whole-sale rates through All India Radio at Madras and by compiling it and circulating it in the form of monthly bulletins.

Mushroom

An Indo-Dutch Mushroom Project for development of mushroom is being implemented in the State of U.P. J & K, H.P. and Karnataka with Dutch assistance. The project aims at increasing production of mushroom by improving quality of compost, casing and spawn materials and training of personnel in Netherlands. The total Netherlands assistance under the project is Rs. 1.25 crore. The machinery and equipment for the project has already been imported from Netherlands. The project is likely to benefit 1500 farmers in 1989.

Coconut

Coconut is an important crop and is a good source of vegetable oil. It provides livelihood for more than 10 million people especially in Kerala. India ranks third in the coconut map of the world with an area of 1.23 million ha. and annual production of 6,404 million nuts. It is targeted to produce 8,000 million nuts at the end of the Seventh Five Year Plan.

Government of India has sanctioned several programmes prepared by Coconut Development Board for increasing production and productivity of coconut in the country during the Seventh Five Year Plan. The major thrust of the development programmes being implemented by Coconut Development Board is on production and supply quality planting materials, expansion of area under coconut in potential areas, productivity improvement in major producing States, technology development in post harvest/processing and extension. For the year 1988-89 an amount of Rs. 188 lakh has been sanctioned to the Coconut Development Board. This includes Rs. 138.86 lakh for the developmental programmes. An Additional amount of Rs. 30 lakh has been sanctioned for the special programmes for rehabilitation of coconut holdings affected by drought in major coconut growing States.

During 1988-89, the Coconut Development Board has produced 5.5 lakh quality seed nuts from disease free locations and supplied them to various State Governments. It is proposed to cover 2,800 ha. under coconut during 1988-89 under the Area Expansion Programme. Three lakh seedlings planted in the previous years on canal embankment in Orissa have been maintained. 6,500 seedlings are planted and maintained on the canal embankments of Karnataka. An area of 212 ha. planted with coconut in Khas lands in Tripura is being maintained. About 50,000 quality seedlings have been raised and distributed in different nurseries. Of the four Demonstration-cum-Seed Production farms set up by the Coconut Development Board in different States, the Demonstration-cum-Seed Production farm in Karnataka has reached the productive stage. Hybrid seed production is proposed to be initiated at this farm during 1988-89. For improving irrigation facilities in the coconut gardens, the Coconut Development Board provides subsidy at Rs. 1,000/- for setting up 3,033 pumpsets. It is proposed to distribute another 1,000 pumpsets during 1988-89. Four cooperative societies engaged in processing of copra will be given financial assistance for development of infrastructure during the year. The Board has also launched a new scheme to train unemployed youths in coconut palm climbing and plant protection measures in Kerala. About 100 youths will be trained during 1988-89. This is an employment generation programme for the youths mostly belonging to the SC/ST, communities.

Oil Palm

Oil Palm yields maximum oil per unit area among cultivated vegetable oil producing crops. The average yield from oil palm is about 3 tonnes per ha. per year which is about 3-4 times that of coconut and nearly 7 times of other cultivated oil-seeds. In Kerala Plantation of oil palm has been taken up by Oil Palm India Limited, which is a joint venture of Government of India and Government of Kerala with equity participation in the ratio of 49:51. The total area planted by the company under oil palm in Kerala is 3,075 ha.

Cashewnut

Cashewnut is an Important export oriented crop. It is targeted to produce 3.25 lakh tonnes of cashewnut by the end of the Seventh Five Year Plan. A Centrally Sponsored

Scheme on Cashew is being implemented which includes expansion of area, popularisation of plant protection measures and training of farmers on advanced technology through demonstrations. During 1988-89, an outlay of Rs. 114.9 lakh has been provided as share of Government of India for implementation of the Centrally Sponsored Scheme for development of cashewnut.

During 1988-89, it has been proposed to maintain an area of 7,953 ha. planted under the World Bank-Aided Multistate Cashew Project, besides covering an area of 2,400 ha. under the Area Expansion Programme by planting seedlings under Centrally Sponsored Package Programme for development of cashewnut. 1,500 ha. have been proposed to be covered under the scheme for Area Expansion by planting epicotyl grafts. The programme for improvement of cashewnut by vegetative propagation and establishment of close planted budweed nurseries is also being implemented during the year 1988-89. Under this programme 57.5 units of scion banks have been maintained and an area of 2,450 ha. covered. 3,000 ha. clonal orchards have been proposed to be established during 1988-89. New demonstration plots numbering 2,550 have been laid out in the ryots fields to demonstrate the efficacy of improved agro-techniques. An area of 3,700 ha. will be covered during 1988-89 under the programme for adoption of pest management practices for which a subsidy of Rs. 250/- per ha. is provided to meet the cost of plant protection chemicals and application charges.

Spices

The important spices grown in the country are pepper, ginger, turmeric, chilly, clove, nutmeg, saffron, vanilla, aniseed, coriander, cumin, fennel, fenugreek, etc. For the development of spices in the country, a Centrally sponsored Scheme on Integrated Development of Spices is being implemented in the main spices growing States. Besides, a scheme for maintenance of nurseries and production of planting material of pepper is also being implemented as a Central Sector Programme. The main components of these programmes are to maintain progeny orchards for pepper, cinnamon, clove and nutmeg and production and distribution of seedlings of these crops. The pepper progeny gardens established in an area of 23.1 ha. are being maintained during the current year. Similarly, 11 ha. progeny gardens of clove, nutmeg and cinnamon have also been maintained during 1988-89. During 1987-88, 25 lakh hybrid pepper rooted cuttings were produced and distributed to farmers.

A Centrally Sponsored Scheme on Integrated Development of Spices is being implemented during 1988-89 for which an outlay of Rs. 158.88 lakh has been provided. Under the Scheme, it has been proposed to produce and distribute 47 lakh rooted cuttings of high yielding varieties, establish and maintain model gardens over an area of 20 ha., distribute 60,000 input kits to small and marginal farmers besides distribution of 250 sprayers during the year. 250 pepper demonstration plots in ryots gardens in non-traditional areas would also be laid out. Rehabilitation of pepper gardens will be taken up in 2,500 ha. in Kerala. 60,000 seedlings of clove have been proposed to be produced and distributed besides maintenance of progeny gardens of clove, nutmeg and cinnamon in 11 ha. in Andaman & Nicobar Islands and laying out 60 demonstration plots of clove in Andaman & Nicobar Islands during the current year. 400 demonstration have also been proposed to be conducted for popularisation of scientific methods of processing of pepper, turmeric and chillies during 1988-89. These targets are likely to be achieved full by the end of the current financial year. Under the Central Sector Scheme for production and distribution of hybrid Penniur-1 rooted cuttings of pepper being implemented under the Kerala Agricultural University, Trichur, and Konkan Krishi Vidya Peeth, Depoli, the progeny gardens in 9.5 ha. have been maintained and 2 lakh rooted cuttings of Penniur-1 pepper variety have been proposed to be produced during 1988-89. For this scheme, an outlay of Rs. 1.34 lakh has been provided for the year.

Cocoa

Cocoa is grown over an estimated area of 17,000 ha. with an annual production of 8,300 tonnes. A Central Sector Scheme on Development of Cocoa was continued to be implemented in the States of Kerala, Karnataka and Tamil Nadu, during 1988-89. The objective of the scheme is to promote scientific cultivation and encourage procurement and processing of cocoa beans in

Cooperative Sector. The development measures envisaged under the scheme during 1988-89 included 20 demonstration plots laid out in previous years ; impart training to 1,000 farmers ; distribute 250 kgs. rodenticides ; distribute 1000 model rattraps and provide subsidy for installation of four driers. An outlay of Rs. 2 lakh has been provided under the scheme for 1988-89.

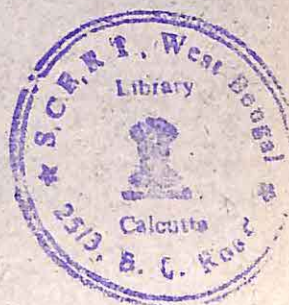
Grading and Standardisation—This is carried out under the Agricultural Produce (Grading and Marketing) act of 1937. Export commodities such as, tobacco, sannhemp, wool, bristles, goat hair, lemongrass oil, palmrose oil, sandal wood oil, vetiver oil, myrobalans and walnuts are compulsorily graded (AGMARK). Grading of commodities for internal trade is being carried out a voluntary basis for ghee, oils, butter, cotton, eggs, wheat, flour, rice, potatoes, gur, fruits, honey etc. For fixing and revising grade standards, a Central Control Laboratory at Nagpur and 8 regional laboratories at Guntur, Madras, Cochin, Kanpur, Rajkot, Amritsar, Calcutta and Bombay have been started functioning : others have been reequipped.

Regulation of Markets—Continuous attention is being paid to increase the number of regulated markets in the country. The total number of regulated markets now stands at 1035.

Training—ICAR Research Institutes organised the following training programmes in 150 Farmer Training Centres and three extension Education Institutes.

Sl. No.	Training Programme	Number of Trainees
1.	Pre-Service Training for VL Ws/Gram Sevikas	870
2.	One year in-service training for VLWs	231
3.	Short-term in-service training for VLWs/Gram Sevikas	1985
4.	B.Sc. (Agri.) courses for VLWs	477
5.	Short-term courses for instructions/Extension Officers at Extension Education Institutes	526
6.	Short-term courses extension officers at Agricultural Universities and Research Institutes	851
7.	Communication courses for subject-matter specialists	321
8.	Two-year Diploma Courses in Home Science	31
9.	Special training course at ICRISAT for Extension Officers	56

Fruit Products Order, 1955—Under this Order, enforcement of quality control and rendering advisory guidance for the promotion of industry is being carried on as before.



AREA, PRODUCTION AND YIELD OF PRINCIPAL CROPS—ALL INDIA

A—Area in lakh hectare
P—Production in lakh tonne/bale
Y—Yield kg. per hectare

Crop	1950-51	1960-61	1970-71	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88
1	2	3	4	5	6	7	8	9	10	11	12
Rice											
A	308.10	341.28	375.92	401.52	407.08	382.62	412.44	411.59	411.37	411.67	383.19
P	205.76	345.74	422.25	536.31	532.48	471.16	600.97	583.36	638.25	605.57	564.34
Y	668	1013	1123	1336	1308	1231	1457	1417	1552	1471	1473
Wheat											
A	97.46	129.27	182.41	222.79	221.44	235.67	246.72	235.65	229.97	231.31	226.04
P	64.62	109.97	238.32	363.13	374.52	427.94	454.76	440.69	470.52	443.23	450.96
Y	663	851	1307	1630	1691	1816	1843	1870	2046	1916	1995
Jowar											
A	155.71	184.12	173.74	158.09	165.99	163.76	164.32	159.39	160.97	159.48	156.48
P	54.95	98.14	81.05	104.31	120.62	107.53	119.19	114.02	101.97	91.85	118.47
Y	353	533	466	660	727	657	725	715	633	576	757
Bajra											
A	90.23	114.69	129.13	116.57	117.84	109.42	118.32	106.19	106.52	112.66	86.92
P	25.95	32.83	80.29	53.43	55.37	51.31	77.26	60.47	36.64	45.14	32.82
Y	288	286	622	458	470	469	653	569	344	401	378
Maize											
A	31.59	44.07	58.52	60.05	59.35	57.20	58.59	58.00	57.97	59.23	55.42
P	17.29	40.80	74.86	69.57	68.97	65.49	70.22	84.42	66.44	75.93	56.29
Y	547	926	1279	1159	1162	1145	1352	1456	1146	1282	1016
Total Cereals											
A	782.30	920.18	1017.82	1042.10	1052.95	1022.62	1076.21	1039.36	1036.05	1040.39	971.47
P	424.14	693.14	966.04	1189.62	1217.88	1176.62	1394.80	1335.76	1370.79	1317.11	1273.74
Y	542	753	949	1142	1157	1151	1296	1285	1323	1266	1311

Crop	1950-51	1960-61	1970-71	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88
1	2	3	4	5	6	7	8	9	10	11	12
Gram											
A	75.70	92.76	78.39	65.84	78.68	73.99	71.61	69.04	78.05	69.84	58.06
P	36.51	62.50	51.99	43.28	46.42	52.00	47.51	45.62	57.88	45.32	36.22
Y	482	674	663	657	590	715	663	661	742	649	624
Total Pulses											
A	190.91	235.63	225.34	224.57	238.43	228.33	235.42	227.37	244.18	231.56	215.59
P	84.11	127.04	118.18	106.27	115.07	118.57	128.94	119.63	133.61	117.07	110.40
Y	441	539	524	473	483	519	548	526	547	506	512
Total Foodgrains											
A	973.21	1155.81	1243.16	1266.67	1291.38	1250.95	1311.63	1266.73	1280.23	1271.95	1187.06
P	508.25	820.18	1084.22	1295.89	1332.95	1295.19	1523.74	1455.39	1504.40	1434.18	1384.14
Y	522	710	872	1023	1032	1035	1162	1149	1175	1128	1166
Ground nut											
A	44.94	64.63	73.26	68.01	74.29	72.15	75.39	71.68	71.25	69.82	67.34
P	34.81	48.12	61.11	50.05	72.23	52.82	70.85	64.36	51.21	58.75	56.73
Y	775	745	834	736	972	732	940	898	719	841	842
Rapeseed & Mustard											
A	20.71	28.83	33.23	41.11	43.99	38.27	38.74	39.87	39.80	37.19	45.08
P	7.62	13.47	19.76	23.04	23.81	22.07	26.08	30.73	26.81	26.05	33.70
Y	368	467	594	560	541	577	673	771	674	700	748
Total Nine Oilseeds											
A	107.27*	137.70*	166.44	176.03	189.07	177.55	186.89	189.24	190.20	186.26	200.00
P	51.58*	69.82*	96.30	93.72	120.80	99.95	126.92	129.46	108.33	112.70	123.78
Y	481*	507*	579	532	639	563	679	684	570	605	619
Sugarcane											
A	17.07	24.15	26.15	26.67	31.93	33.58	31.10	29.53	28.49	30.79	32.87
P	570.51	1100.01	1263.68	1542.48	1863.58	1895.06	1740.76	1703.19	1706.48	1860.89	1967.23
Y	33422	45549	48322	57844	53859	564*	55978	57673	59898	60444	59851

PRESS AND PUBLICATION

The Indian journalism had its first beginning when James Augustus Hickey started his "Bengal Gazette" on January 29, 1780 at Serampore near Calcutta. Hickey's venture was followed by a number of others in quick succession. The most significant of these was the "John Bull in the East" in 1821, which was subsequently changed in to the "Englishman".

Most of the newspaper published in the country came into being after independence. To be precise, as many as 95.7% of the newspaper started publication only after 1946.

At the end of the year 1983-84 RNI Office has 21,784 newspaper on its record. The newspaper are published in 16 principal languages of India. Gangta and Muradari languages were taken on record for the first time during 1983. Kondoni language in Kannada script was also taken on record and the first newspaper in the script.

Periodicals : The majority of Indian newspaper were periodicals. During 1983, out of 19,227 as many as 7,232 (37.6%) were monthlies, 6122 (31.8%) Weeklies, 2,817 (14.7%), fortnightlies and 1,979 (10.3%) quarterlies. There were 244 annual & 833 bi-monthly-half yearly etc.

Circulation patterns of newspapers : There are 217 big, 461 medium and 6,944 small newspapers. The big accounted for 22,843,000 copies, medium 11,561,000 copies, small 11,561,000 copies and small 20,987,000 copies. Percentagewise, this share of circulation came to 41.2, 20.9 and 37.9 respectively.

Ownerships of newspaper : Out of 20,758 newspapers as many as 13,705 were owned by individuals 3,456 by Societies and association, 1009 by firms and partnerships and 877 by Joint Stock Companies. There were 612 newspaper brought out by the Central and State Governments.

Newspaper owned by individual had the largest share in circulation with 36.6% followed by these owned by Joint Stock Companies with a share of 36.4% in 1984, there were 106 common ownership units which brought out 423 newspapers. Newspaper belonging to these units had a circulation of 16,690,000 copies which was 30.1% of the total circulation.

Circulation : Out of the total number of 21,784 publications on record as on 31st December, 1984 1,609 are newspapers ; 111 are tri/bi weeklies; 6,649 are weeklies and other miscellaneous publication amounts to 13,595. Total circulation of newspapers/periodicals as on 31st December, 1984 was 6,11,47,000 copies as compared to 5,53,91,000 copies in 1983 indicating an increase of 10.4%.

Hindi has occupied largest number of publication of newspaper 6,370 ; English 3,961 ; Bengali 1,662 ; Urdu 1,492 ; Tamil 892 ; Marathi 1,168 ; Malayalam 876 ; Gujarati 735 ; Kannada 687 ; Telugu 607 ; Punjabi 473 ; Oriya 312 ; Assamese 87 ; Sindhi 69 ; Sanskrit 31 ; Kashmiri 1.

OLDEST EXISTING NEWSPAPER—Daily—Bombay Samachar, Gujarati, Bombay (1822) ; Periodical—Calcutta Review, English (Monthly), Calcutta (1844). The total number of century old newspaper in India was 36 in 1984.

FREEDOM OF THE PRESS—Unlike American and some other Constitutions in which freedom of the Press is mentioned as one of the fundamental freedom, the Indian Constitution does not specially mention freedom of the Press; the Fundamental Rights clause of the Indian Constitution treats freedom of the Press as an aspect of the large "freedom of expression".

Article 19(1) of the Constitution guarantees "the rights to freedom of speech and expression to all citizen". This freedom has been interpreted by the courts to include freedom of the Press under the Constitution (First Amendment Act of 1951). Parliament can pass legislation reasonably restricting this right "in the interest of the security of the State, friendly relations with foreign States, public order, decency or morality or in relation to contempt of court, defamation or incitement to an offence". The words "reasonable restriction" make such legislation justifiable.

COPYRIGHT—Copyright Act of 1957 came into force in January 1958. It provides for the establishment of a Copyright Board or adjudication on certain matters specified in the Act. The Govt. of India also ratified the Universal Copyright Convention and it came into

force in Act to the words of more than 20 foreign countries.

NEWSPRINT—India import newsprint mainly from Canada, Scandinavian countries, USSR, Poland, Czechoslovakia and USA. Newsprint factory at Nepanagar has an installed capacity of 75,000 tonnes annually. Work on the public sector newsprint factory at Vellore has begun. The factory which expected to be commissioned will have a production capacity of 8,000 tonnes per year in its first stage.

Newsprint Allocation Policy for the licensing years 1986-87 and 1987-88 was announced on November 13, 1986. The Policy is broadly based on the principle of self-reliance and aims at promoting the growth of newspapers. It pays special attention to the needs of the small and medium newspapers. The salient features of the Policy is the newspaper requirement of newspaper for this year is expected to be 5.89 lakhs metric tonnes as against last year's allocation of 5.32 lakh metric tonnes. Of this, indigenous production is estimated to be 3.32 lakh metric tonnes against the production of 2.75 lakh metric tonnes last year.

DEFINITION OF NEWSPAPER—There is a conflict as to the definition of 'newspaper' according to the Indian Post Office Act, and the Press and Registration of Books Acts. The Press and Registration of Books Act says "Newspaper means any printed periodical work containing public news or comments on public news", whereas according to the Indian Post Office Act, every publication, consisting wholly or in great part of political or other news or of articles relating thereto or to other current topics, with or without advertisements, shall be deemed a newspaper subject to the following conditions, namely (a) that it is published in numbers at intervals of not more than 31 days, (b) that it has a bonafide list of subscribers.

CLASSIFICATION OF NEWSPAPERS, PERIODICALS ETC.—For this classification, the definition of UNESCO has been accepted, which broadly divides newspaper into two categories, namely, General Interest Newspapers and Periodicals. 'General Interest Newspapers' is defined as any publication put on sale to the general public, which serves as an initial source or written news of current events in the field of public affairs, politics, government, etc. The term, 'initial source' is used in order to exclude periodicals, such as weekly news magazines.

UNESCO also defines 'periodical' other than a general interest newspaper as a publication which appears under the same title at regular intervals but more than once a year and whose contents vary widely ranging from information of a general nature to trade technical and professional subjects. UNESCO's definition covers all periodicals published weekly or at longer intervals except annuals.

NEWSPAPER CATEGORIES—For the sake of classification the Government of India have divided the paper into A and B categories. B category included market bulletins, commercial circulars, magazines of educational institutions, house magazines and publicity journals, serialised fiction, journals on astrology, and miscellaneous including racing calendars, pricelists, law reports, etc.

The Govt. of India have defined 'monopoly to newspaper' as follows : a monopoly is deemed to exist where more than 50 p.c. of the circulation in a particular region or language is controlled by one person or by one group of interconnected companies, such as the "Hindu", English daily of Madras, controlling 57.8 p.c. in Tamil Nadu State, the "Statesman", English daily of Calcutta controlling 52.9 p.c. in West Bengal.

CHAINS, GROUPS AND MULTIPLE UNITS OF NEWSPAPER—The Registrar of Newspapers for India has divided the newspaper as follows—

CHAINS—more than one newspaper under common ownership from more than one centre.

GROUPS—more than one newspaper under common ownership from the same centre.

MULTIPLE UNITS—more than one newspaper of the same title, language and periodically under common ownership.

DAILY PRESS—In accordance with the definition adopted by UNESCO, a daily means a newspaper issued "at least four times a week." India is the second largest publishers of daily newspaper in the World according to the UNESCO.

Relief to Small and Medium Newspaper from Customs Duty

To encourage the growth of small and medium newspapers, the Government allowed graded relief to them from customs duty. The rate of customs duty was Rs.550 per metric tonne whereas the medium papers paid duty at the rate of Rs 275 only per metric tonne; small newspapers got total relief from customs duty. The newspapers with entitlements up to 300 metric tonnes continued to get their entire quantity in imported newsprint.

PRESS COUNCIL

Press Council Bill was introduced in the Lok Sabha in July 1956 and passed with a few amendments. With the dissolution of the first Lok Sabha in April 1957 the Bill lapsed. The establishment of a Press Council was recommended by the Press Commission which was appointed by the Govt. of India in 1952. It provided for a statutory council.

Press Council Act seeks to establish an autonomous body entrusted with the task of acting as a "watchdog" of the freedom of the Press in India.

PRESS COUNCIL OF INDIA, a statutory body, came into being with effect from July 4, 1966 with Shri J.R. Mudholkar as its first Chairman who was nominated by the Chief Justice of India. The Council has 26 other members. The Chairman and other members shall hold office for 3 years. The object of the Council is to preserve the liberty of the press and maintain and improve the standards of newspaper in India.

Another Press Commission has been set up by the Government in April, 1979 under the chairmanship of Justice A. N. Grover.

NEWS AGENCIES—In pursuance of the policy decision taken in 1978 under which the four news agencies viz. Press Trust of India, United News of India, Hindustan Samachar and Samachar Bharati started functioning as separate independent entities.

Foreign News Agencies

(1) Associated Press, London; (2) Agency France Press; (3) Associated Press of America; (4) ANSA (Italy); (5) A.D.N. (East Germany); (6) Antara (Indonesia); (7) Algeric Press Service; (8) Arab Revolutionary News Agency; (9) Bernama; (10) B.S.S.; (11) British Information Service; (12) Christian Science Monitor; (13) CETEKA (Czechoslovakia); (14) DPA (West Germany); (15) Eastern News Agency (Bangladesh); (16) Ethiopian News Agency; (17) Far Economic Review; (18) Ghana News Agency; (19) Iraque News Agency; (20) Koyoda News Service (Japan); (21) Kenya News Agency; (22) Los Angeles Time; (23) Middle East News Agency; (24) Moroccan Press Agency; (25) New York Times News Service; (26) Non-Alligned News Pool; (27) Notimex (Mexico); (28) PAP (Polish); (29) Prensa Latin (Cuba); (30) Water News Agency; (31) Reuters; (32) Rastriya Samvad Samity (Nepal); (33) Soviet Samachar; (34) Shihata (Tanzania); (35) Sudan News Agency; (36) Sri Lanka Broadcasting Corporation; (37) Soviet News; (38) Soviet Press News; (39) TASS; (40) Tanjug (Yugoslavia); (41) U.P.I. (N.Y.); (42) Vidnam News Agency; (43) Washington Post News Agency; (44) Zambian News Agency.

Indian News Agencies

(1) Associated News Service; (2) Bharat News Service; (3) Bundelkhand News Agency; (4) Continental News Service; (5) Central News Letter; (6) Current News; (7) Central News & Features; (8) Commercial News Feature Service; (9) Economic Service; (10) Express News Service; (11) Hindustan Samachar Co-operative Society; (12) Hindustan Samachar; (13) Indian News & Feature Alliance; (14) I.P.A.; (15) Independent News Service; (16) I.N.F.; (17) J.K. News; (18) J.A.K.; (19) Kaumudi News Service; (20) Kerala Press Service; (21) Madhya Pradesh Samachar; (22) National News Service; (23) National Press Agency; (24) National Press; (25) N.F.K.; (26) Orissa News; (27) Press Trust of India; (28) Press Asia International; (29) Press Information Bureau; (30) Publication Syndicate; (31) Punjab Press Service; (32) Punjab News Service; (33) Rahbar News & Feature Agency; (34) Rajasthan Samachar; (35) Samachar Bharati; (36) Sarvodaya

Vichar Sewa ; (37) Sakshi ; Samachar Sewa ; (38) United News India ; (39) Universal News Service ; (40) U.P.F. (J.K.) ; (41) Urdu News Service ; (42) Yug Varta.

Indian Newspaper Associations

(1) INDIAN AND EASTERN NEWSPAPER SOCIETY, RAFI MARG, NEW DELHI-1—a representative body of newspapers, founded in February, 1939. IENS is an association of newspapers, publishers and proprietors. It is a central organisation primarily of the Press of India and also of any other press publications in Asia, which desire to associate themselves with the Society. It also grants to Advertising agencies, accreditation subject to their fulfilling certain conditions. Its main objects are to promote and safeguard the newspaper publishing interests of its members and to take suitable steps in respect of such business as its effected by the action of legislatures, Government, law courts, municipal and local bodies, etc.; hold periodical conference of members to discuss and determine action of matters of common interest. The Society is actively associated with the two Wages Boards for Working Journalists and non-journalists Employees of Newspaper.

(2) ALL-INDIA NEWSPAPER EDITORS' CONFERENCE, 50-51, THEATRE COMMUNICATION BUILDINGS, CONNAUGHT PLACE, NEW DELHI-1—was started in 1940. It is voluntary organisation of the editors of Indian Newspapers and periodicals. Its main objects are, to preserve the high traditions and standards of journalism, to safeguard freedom and rights of the Press ; to secure all facilities and privileges to the press for the discharge of its responsibilities; to establish liaison between the Press and the Government, between the Press and the public ; to develop contacts with associations having similar object in other countries.

(3) INDIAN LANGUAGES NEWSPAPER ASSOCIATION, JANMA BHUMI BHAVAN, GHOGA STREET, BOMBAY-1—An association of the proprietors of newspapers periodicals published in the Indian languages, it was established in 1941. Its main objective are to promote and safeguard the business interest of its members and encourage friendship and co-operation among them. Membership must be a newspaper or periodicals published in any of the Indian languages.

(4) INDIAN FEDERATION OF WORKING JOURNALISTS, FLAT NO. 29, NEW CENTRAL MARKET, NEW DELHI-1—The federal all-India body representing journalists' trade unions, it was founded in October, 1950. Its principal object is to defend the right and interest of working journalists and to promote their status professionally.

(5) PRESS INSTITUTE OF INDIA, SAPRU HOUSE, BARAKHAMBHA ROAD, NEW DELHI-1—was set up by the Indian Press on 1st January, 1963 for helping to set up a professional institute to train Indian journalists to an awareness to their high responsibilities, to assists the growth and stability of newspapers, etc. It is affiliated to the International Press Institute, Zurich. The management is in three tiers-Board of Trustees, Board of Management and Secretariat. Corporate membership is possible. Individuals cannot be members.

(6) AUDIT BUREAU OF CIRCULATION LTD., (ABC), WAKEFIELD HOUSE, SPROTT ROAD, BALLARD ESTATE, BOMBAY-1—The ABC was registered in 1948 as a non-profit making company with no share capital and limited liability by guarantee. The Indian ABC is one of the sixteen organisation in the world, whose certificates of newspaper circulations are accepted at their face value. To ensure the accuracy of its certificates, the ABC insists on proper maintenance of circulation records and full compliance with a comprehensive procedure of audit.

(7) PRESS GUILD OF INDIA, GUILD HALL, THE MAJESTIC, BOMBAY-1—a broad based composite organisation of journalist to enable members of the profession but also others connected with newspaper industry to develop close fellowship on intellectual and social plan. It was founded in 1925. Membership are of two categories ; ordinary and associate.

(8) SPECIALISED PUBLICATIONS ASSOCIATIONS, SHORAB HOUSE, 235, DADBHAI NAOROJI ROAD, BOMBAY-1—a representative body of trade, technical,

business and other specialised publications in India. It was established in 1950. Its main aims are to provide common platform for specialised Indian publications, run on commercial basis ; to safeguard members' interest ; to help specialised publications advance on scientific and progressive lines etc. Membership are of three categories : ordinary, associate and honorary.

(9) **TRADE AND TECHNICAL PUBLICATIONS ASSOCIATION**, 12, FORT CHAMBERS, HAMAM STREET, BOMBAY-1—was formed in 1957 by those interested in trade and technical journals. Its main objective is to solve the difficulties which these publications encounter from time to time, as a result of certain Government measures.

(10) **MADRAS REPORTERS' GUILD, GOVERNMENT ESTATE, MOUNT ROAD, MADRAS-2**—A professional organisation of news reporters and correspondents, it was established in 1957. Its main aim to foster cordial relations between reports.

(11) **ALL-INDIA INDUSTRIAL EDITORS' COUNCIL**, 4, BIRBAL ROAD, NEW DELHI-14—Its main aim is to uphold the high traditions and ethics of journalism.

(12) **UTTAR PRADESH FILM JOURNALIST ASSOCIATION**, 14, MARWARI MARG, LUCKNOW-1—was formally inaugurated in 1960 and affiliated as a member unit with the International Federation of Film Journalists.

(13) **ALL-INDIA SMALL AND MEDIUM NEWSPAPER EDITORS' ASSOCIATION**, 104-A/98, RAMBAGH, KANPUR—Its aims are to preserve high traditions and standards of journalism ; to promote and safeguard the business interest of newspapers and periodicals.

The Central and State Government Publicity

The Government of India's publicity work is carried on chiefly through the Ministry of Information and Broadcasting. The Ministry is responsible for the following functions : (1) Press Informations Bureau ; (2) Publications Division ; (3) Directorate of Advertising and Visual Publicity ; (4) Directorate of Field Publicity ; (5) Research and Reference Division ; (6) Films Division ; (7) Photo Division ; (8) Register of Film Censors ; (9) Film Institute ; (10) All India Radio ; (11) Doordarshan.

All the States of Indian have their own publicity departments. They issue journals, magazines, books, etc., for publicity purposes.

There is not only Press Information Bureau under the Information Officers or Press Attaches attached to Indian Embassies and consular establishment abroad and Public Relations Officers for Railways and other government agencies, but there are also information Ministries in the State controlling information departments under the Directorate of Publicity.

PRESS INFORMATION BUREAU, AKASHVANI BHAVAN, NEW DELHI—serves Indian Press and correspondents of Foreign Press stationed in India with news materials and photographs regarding the policies and programmes of the Government of India. The Bureau acts as link between the Government and the public through the Press, informing the Government in touch with the main trends of public opinion as reflected in the Press. The services of the Bureau are made available to the press in 18 languages.

PUBLICATIONS DIVISION, PATIALA HOUSE, NEW DELHI—is in the Ministry of Information and Broadcasting and is responsible for the preparation, production, distribution and sale of various kinds of books, pamphlets, pictorial albums and journals, which provide the general public in India and abroad with information about the country and its culture, the activities and achievement of Central Government, Five-Year Plans etc. This publicity is undertaken in English, Hindi and in regional languages.

A NATIONAL BIBLIOGRAPHY UNIT—was set up at the National Library in Calcutta in 1957. It brought out the annual volume of the Indian National Bibliography in 1958 and has since been publishing regularly the subsequent annual volumes.

Forty Years of Freedom

DAVP designed and mounted a special exhibition entitled 'Forty Years of Independence'. Fifteen sets of prestigious exhibition for simultaneous exposure in different

parts of the country. DAVP also produced two English/Hindi bilingual colourful posters and two English/Hindi bilingual designs for hoardings for display at important points all over the country. Both the above publicity items were sent to the Departments of Public Relations of the State Governments and Union Territories with the request that the posters and hoarding designs be duplicated in their local languages/dialects for maximum exposure. A bilingual stamp folder entitled '40 Years of Freedom 1947-87' was brought out on this occasion on behalf of the Department of Posts. DAVP also printed Prime Minister, Shri Rajiv Gandhi's speech entitled '40 Years of Independence' on the occasion of the Independence Day as a booklet in English, Hindi and the major regional languages.

DIRECTORATE OF ADVERTISING AND VISUAL PUBLICITY, P.T.I. BUILDINGS, 3RD FLOOR, PARLIAMENT STREET, NEW DELHI—functions as the central organisation of the Government of India for the popularisation and promotion of the activities of The State among the people through advertising and visual media of mass communication. The directorate utilise and display and classified advertisements in the Press, printed publicity in the form of brochures, posters, booklets, folders, maps, charts, picture postcards, match box labels and hoardings are used.

DIRECTORATE OF FIELD PUBLICITY—was established in 1952 to publicize national planning and development through its mobile units. Its activities are directed in publicizing the Plans among the people and creating the necessary enthusiasms for their successful fulfilment. Field Publicity mobile units are the chief means of this kind of publicity campaign, which arrange film shows, public meetings, seminars, group discussion etc.

RESEARCH AND REFERENCE DIVISION—The main function of this Division is to furnish reference materials and background note for publicity purpose to the Ministry of Information and Broadcasting and the various media units under it. So its functions can be classified like these (1) to undertake basic research on matters of publicity, (2) to build up an indexed reference compendium of current events, (3) to compile a Year-Book to give a comprehensive picture of the annual activities of the Central and the State Governments.

FILMS DIVISION, 91, WELKESSYAR ROAD, BOMBAY—is responsible for the production and distribution of documentary films, cartoons and newsreels for the general information and the education of the people. It is one of the biggest short film producing organisations in the world, with an output of about 150 films per year. The Division is divided into 4 main departments, namely (i) Production Department which has documentary Section and Newsreel Section, (ii) Distribution Department, (iii) Publicity Department, (iv) Administration Department.

There is also a Central Board of film certification which works as a single censoring authority for the certification of films.

PHOTO DIVISION—is primarily a production unit which caters for the demand for photography by the Media Units of the Ministry of External Affairs. The Division also supplies photographs, under a pricing scheme, to other ministries and Departments and also to non-publicity organisations and members of the public.

REGISTRAR OF NEWSPAPERS FOR INDIA, SHASTRI BHAVAN, NEW DELHI-1—was set up on July 1, 1956. The Press Registrar is the statutory authority for the collection of statistics regarding the press in the country under the Press Registration of Books (Amendment) Act, 1955. Under the Press Registrar, a central agency has been created to maintain a register of newspaper containing prescribed particulars about every newspaper in India.

EXTERNAL PUBLICITY DIVISION, HYDERABAD HOUSE, NEW DELHI—under the Ministry of External Affairs, looks after the promotion of India's publicity abroad, the Division sought to (i) foster and increasing understanding of our country and its policies; (ii) explain and interpret our objectives and action; (iii) counteract influence and false hostile propaganda against our country.

JOURNALISM COURSES IN INDIA

University of Madras—Diploma Course in journalism of one year.

College of Journalism, Advertising and Printing, Bharatiya Vidya Bhavan, Chowpatty, Bombay, has three courses : (1) Journalism—1 year, (Advanced)—2 years ; (2) Advertising & Public relations—1 year ; (3) Printing—2 years.

Punjab University, Chandigarh, Department of Journalism—1 year Diploma Course.

"Hindu" (Madras) scholarship journalism ; one candidate is taken—year for training.

Calcutta University, Department of Journalism—two year Degree Course.

University of Mysore, Maharaja's College, Mysore—B.A. with journalism, 3 year course.

Bombay College of Journalism, K.C. College Building, Dinshaw Wachha Road, Bombay-1—Diploma Course of one year.

College of Marketing and Advertising, K.C. Collge Building, Dinshaw Wachha Road, Bombay-1—One year Diploma Course in Marketing and Advertising to junior executive in the profession.

Hilsop College, Nagpur University—Diploma and Post-Matric certificate Course, each of one year's duration.

Gujarat University—A Journalism Course was introduced in the University, but no college has been started.

Osmania University, Hyderabad-7. Departments of Journalism—one year post-graduate degree in journalism.

Number of Newspaper (1972-1984)

Year	Dailies	Tri/bi Weekly	Weeklies	Others	Total
1972	793	64	3,583	7,486	11,926
1973	830	68	3,875	7,880	12,653
1974	822	68	3,666	7,629	12,185
1975	835	70	3,628	7,890	12,423
1976	875	74	3,801	8,570	13,320
1977	929	78	4,225	9,299	14,531
1978	992	81	4,654	10,087	15,814
1979	1,087	86	5,023	10,972	17,168
1980	1,173	93	5,280	11,594	18,140
1981	1,264	98	5,624	12,158	19,144
1982	1,334	103	5,898	12,620	19,137
1983	1,423	108	6,122	13,105	20,758
1984	1,609	111	6,469	13,595	21,784

Highest circulated dailies

Sl. No.	Details of the dailies	Circulation
1.	Ananda Bazar Patrika, Calcutta (Bengali)	402,491
2.	Jugantar, Calcutta (Bengali)	327,549
3.	Times of India, English, Bombay	296,547
4.	Naba Bharat Times, Hindi, Delhi	290,837
5.	Hindusthan Times, English, Delhi	263,672
6.	Punjab Kesari, Hindi, Jullandhar	231,994
7.	Malayalam Manorama, Malayalam, Kottayam	219,699
8.	Statesman, English, Calcutta	202,898
9.	Lokasatta, Marathi, Bombay	200,009
10.	Maharashtra Times, Marathi, Bombay	192,484
11.	Prajavani, Kannada, Bangalore	194,657
12.	Gujarat Samachar, Gujarat, Ahmedabad	194,199
13.	Times of India, English, Delhi	182,539
14.	Malayalam Manorama, Malayalam, Calicut	178,074
15.	Tribune, English, Chandigarh	164,416
16.	Hindustan, Hindi, Delhi	161,413
17.	Matribhumi, Malayalam, Calicut	161,180
18.	Sandesh, Gujarat, Ahmedabad	157,797
19.	Bombay Samachar, Gujarat, Bombay	147,127
20.	Hindu, English, Madras	147,217
21.	Amrita Bazar Patrika, English, Calcutta	147,219
22.	Nai Dunia, Hindi, Indore	142,886
23.	Mathrubhumi, Malayalam, Cochin	139,171
24.	Eenadu, Telugu, Hyderabad	132,316
25.	Deccan Herald, English, Bangalore	130,654
26.	Malayalam Manorama, Malayalam, Cochin	129,884
27.	Kerala Kaumudi, Malayalam, Trivandrum	126,066
28.	Jagran, Hindi, Kanpur	113,542
29.	Indian Express, English, Delhi	113,530
30.	Dinamani, Tamil, Madurai	113,182

Number of Newspapers in 1984
(Languages & Periodicitywise)

Language	Dailies	Tri/bi Weeklies	Weeklies	Others	Total
Hindi	554	27	2,900	2,889	6,370
English	138	13	440	3,370	3,961
Assamese	3	2	28	54	87
Bengali	52	10	433	1,167	1,662
Gujarati	41	5	177	512	735
Kannada	93	3	173	418	687
Kashmiri	—	—	1	—	1
Malayalam	118	—	125	633	876
Marathi	132	15	391	630	1,168

Language	Dailies	Tri/bi Weeklies	Weeklies	Others	Total
Oriya	17	—	42	253	312
Punjabi	29	1	192	251	473
Sanskrit	2	—	4	25	31
Şindhi	7	—	22	40	69
Tamil	113	3	134	642	892
Telegu	42	2	167	396	607
Urdu	182	9	723	578	1,492
Bilingual	35	15	382	1,260	1,692
Multilingual	9	2	68	281	360
Others	42	4	67	196	309
Total	1,609	111	6,469	13,595	21,784

ADVERTISING MEDIA

ADVERTISING COUNCIL OF INDIA, ARMY AND NAVY BUILDING, MAHATMA GANDHI ROAD, BOMBAY-1—is the main advertising body in India, formed in Bombay on August 20, 1959 as a voluntary association of publishers, advertisers, advertising agents, printers and newspaper editors. The Council is an advertising on ethical aesthetic and sound lines; to specify standards for advertising practice in India; to advise the State and Central Governments all matters referred to the Council in respect of their advertising etc.

INDIAN SOCIETY OF ADVERTISERS, 184, MAHATMA GANDHI ROAD, BOMBAY-1—The Society was founded in September 1952. As an organisation of commercial advertisers in the country, it aims to promote, maintain and uphold sound, ethical and economic principles of advertising to encourage and promote unanimity among members on all subjects involving their common good; to promote or oppose legislative or other measures affecting advertising, trade mark, trade and business names and any other matters affecting society etc.

SOCIETY OF ADVERTISING PRACTITIONERS, ILACO HOUSE, SIR P.M. ROAD, BOMBAY-1—It was incorporated under Companies Act as a limited liability body in May in 1953. It aims to elevate the status of advertising practitioners, to safeguard and advance their interest etc. It has 5 classes of membership.

ADVERTISING AGENCIES ASSOCIATION OF INDIA, 111-A, MAHATMA GANDHI ROAD, FORT, BOMBAY-1—A representative body of the advertising agency profession, it was established in 1945. Since then it has contributed much to the improvement of advertising standards in India. Its objects are : to raise and improve the standard of publicity and advertising by all practical means, to encourage and secure friendly relations and unanimity among members of the advertising profession and advertising agencies all over the world.

INDIAN INSTITUTE OF MASS COMMUNICATIONS—was established on August 17, 1965 as a national centre of advanced study and research in journalism and mass communication. It became an autonomous body in Jan. 22, 1966.

LABOUR

ORGANISATIONAL SET-UP—Labour being concurrent subject both the Central and State Government are competent to enact and administer labour laws. The Central Government generally lays down policy for the whole country, while its implementation is

mostly the responsibility of the State Governments. However labour employed in railways, major ports, mines, oilfields, banking and insurance companies, comes directly within the purview of the Central Government. The activities in the field of employment and training are also conducted by the Central Government.

Under the India Constitution, the following subjects may be legislated concurrently by the Central and State Legislature—(1) Trade Unions, industrial and labour disputes ; (2) Social Security and Social Insurance, employment and unemployment ; (3) Welfare of labour, including conditions of work, provident funds, employers liability, workmen's compensation, invalidity and old-age pensions, maternity benefits ; (3) Vocational and Technical Training of labour ; (5) Relief and Rehabilitation of refugees.

UNION ADMINISTRATION—The activities of the Government of India regarding labour is controlled by the Ministry of labour. The Ministry deals with the following subjects : (1) Labour Welfare ; (ii) Industrial and Labour Disputes ; (iii) Labour ; (iv) Unemployment Insurance and Health Insurance etc ; (v) Labour employed in railways, major ports, mines and oilfields ; (vi) Resettlement of demobilised soldiers and discharged war workers ; (vii) Participation in the International Labour Conferences and work connected therewith.

As regards subjects (i) to (iv), the Ministry is only responsible for laying down the general policy for the whole of India, while the implementation of the policy relating to these subjects is entirely the responsibility of the State Governments concerned, though the Central Government has powers to exercise control and give direction.

The following are the attached offices of the Ministry :—

(1) Office of the Director-General, Employees State Insurance Corporation, New Delhi—is a quasi-Government institution to administer the Employees State Insurance Act. It has a network of regional office throughout the country.

(2) Office of the Director, Labour Bureau, Simla—is responsible for the collection and compilation of labour statistics, maintenance of working class consumer index number keeping up-to-date factual data relating to work condition, conducting research into specific problems etc.

(3) Office of the Director General of Employment and Training was set up in 1945 to assist the demobilised personnel in their resettlement in civil life from the army. After some time, the scope and activities of this extended to various other categories.

(4) Office of the Chief Labour Commissioner, New Delhi—deals with (a) conciliation, (b) examination of welfare measures and advice to the employees and the Government in connection therewith, (c) operation of labour laws to the extent of general responsibilities, (d) organisation and setting up of canteens in all Government undertakings, besides offering advice to the State Government and Administration. There are 6 regional offices under the control of the Chief Labour Commissioner.

(5) Office of the Coal Mines Welfare Commissioner, Dhanbad—deals with (i) the administration of Coal Mines Labour Welfare Fund Act 1947, and (ii) the administration of the Mica Labour Fund Act, 1946.

(6) Office of the Chief Inspector of Mines, Dhanbad—The activities of this office are : (i) enforcement of the Mines Act of 1952, (ii) inspection of mines, (iii) investigation of accidents, (iv) inspection of electrical installations and machinery, (v) technical advice to the mine-owners, (vi) prosecutions, (vii) collection of statistics and (viii) enforcement of the Maternity Benefit Act, 1961, (ix) enforcement of Indian Electricity Act, 1910, wherever applicable.

(7) Office of the Chief Adviser of Factories, New Delhi—deals with (a) training of Factory Inspectors and Safety Officers, (b) industrial health survey of toxic hazards, (c) environmental problems of factories, (d) studies relating to productivity and work methods, (e) housing of industrial labour and administration of safety measures, (f) Health and Welfare Schemes under the Dock Workers (Regulation of Employment) Act, (g) assistance in all matters relating to the working conditions, (h) collection of up-to-date information in respect of safety, health and welfare of industrial workers.

(8) Office of the Controller of Emigrant Labour, Shillong—deals with (a) interpretation of the Tea District Emigrant Labour Act, (b) compensation cases relating to persons belonging to provincial Civil Labour units and State Labour units who worked on Defence projects.

(9) Office of the Welfare Commissioners, Mica Mines Labour Welfare Fund, Dhanbad and Nellore.

(10) Office of the Coal Mines Provident Fund Commissioner, Dhanbad—was set up in 1984, for (a) Administration of Coal Mines Bonus Scheme and (b) Administration of Coal Mines Provident Fund Scheme which was formed under Coal Mines Provident Fund and Bonus Scheme Act, 1948.

(11) Office of the Central Provident Fund Commissioners, New Delhi—is responsible for the collection of amounts due to the Fund from employers and the payment of claims due to workers.

(12) Institutions of Works Study, New Delhi—was inaugurated on 31st August 1963, to promote full use of work study to bring about increased efficiency in national development.

(13) Office of the Director-General of Factory, Advise Service and Labour Institute—is concerned with the safety, health and welfare of workers in factories and docks.

(14) Directorate of Labour Bureau is responsible for collection and publication of statistical and other information regarding employment, wages, earnings, industrial disputes, working conditions etc.

(15) The eleven Industrial Tribunal-cum-Labour Courts have been set up under the provisions of the Industrial Disputes Act, 1947 for adjudication of the industrial disputes in which the central Government is the appropriate Government.

(16) Board of Arbitration has been set up for resolving disputes between the Government and the general body of its employees on pay and allowances, weekly hours of work and have of a class on grade of employees.

(17) National Safety Council is a registered society which promotes safety consciousness among workers through publicity and propoganda including audio visual aids.

(18) Central Board of Workers' Education is a registered society dealing with the scheme of training of workers in the technique of trade Unionism and in bringing about consciousness among workers about their rights and responsibilities.

(19) National Labour Institute is a registered society that conducts action oriented research and provides training to grassroot workers in the trade union movement and also to officers dealing with industrial relations, personell management, labour welfare etc.

National Commission on Rural Labour, set up in 11th, August, 1987 for achieving a better understanding of all India as well as region specific problems of rural labour.

TRADE UNIONISM IN INDIA

Trade Unions Act of 1926 makes provisions for three matters—(1) conditions governing the registration of trade unions (2) obligations to which a trade union is subjected after registration and (3) the rights and privileges accorded to registered unions to be used for the conduct of trade disputes and for the provisions of benefits to its members.

This Act as amended in 1947 contains a provisions for compulsory recognition of representative unions by employers. The redeeming feature of the Act is that labour courts are to be appointed to hear and decided disputes arising from the refusal of employers to recognise any particular union. The Act specifies certain acts as unfair practices on the part of recognised unions and certain other acts as unfair on the part of employees. It also declares as unfair practice for an executive of a union to instigate a strike and unfair for a majority of members to take part in an irregular strike.

There are at present 9 central all-India trade union organisations in India : Indian National Trade Union Congress, All-India Trade Union Congress, Hind Mazdoor Sabha, United Trade Union Congress, Centre of Indian Trade Unions, Bharatiya Mazdoor Sangh,

Labour Progressive Federation, National Front of India, Trade Unions and Indian Federation of Independent Trade Unions. AITUC having become manifestly Communists since December 1929, the Indian National Congress leaders organised their own trade union—the INTUC. The Praja Socialist Party organised the HMS, CPI(M) has made a separate centre, the CITU in 1970. BMS was started in 1955. The UTUC (original) is affiliated to RSP while there is another UTUC (Lenin Sarani) affiliated to SUC.

LABOUR WELFARE

Standing Mines Safety Equipment Advisory Board was set up in June, 1963 and is composed inter alia of representatives of mine owners, mine managers, mine workers and the Government Department concerned. The functions of the Board are (a) to make annual assessments of future requirements of mine safety equipment and material; (b) to reviews the position regarding import of such equipment and materials; (c) to keep track of the progress of indigenous production of such equipment and material and (d) generally to advise on the availability of mine safety equipment.

National Council for Safety in Mines was set up on July 11, 1963, to promote safety education and propaganda in mines. It includes representatives of mine owners, mine workers and mine managers.

Coal Mines Labour Welfare Fund was established in 1944, for improving the living and social conditions of workers in the coal mining industry.

Dock Workers (Regulation of Employment) Schemes framed under the Dock Workers (Regulation of Employment) Act, 1948 are at present in operation in the major ports of Bombay, Calcutta, Cochin, Madras, Mormugao and Visakhapatnam. These schemes that seek to regulate the employment of certain specified categories of stevedore labour are administered by Dock Labour Boards which are tripartite bodies consisting of an equal number of representatives of (i) Central Government, (ii) Dock Workers and (iii) the employers of Dock Workers and Shipping Companies.

Mica Mines Labour Welfare Fund provides medical educational and recreational facilities for mica workers.

Under Plantations Labour Act, 1951 all plantations are required to provide housing accommodation to the workers and their families in their residential quarters and to maintain hospital or dispensaries. Most States and Union Territories are running a number of welfare centres.

Motor Transport Workers Act, 1961 provides for the welfare of motor transport workers and regulates the condition of their work.

Iron Ore Mines Labour Welfare Cess Act, 1961 provides for the levy and collection of a cess for promoting welfare of the labour employed in this mining industry. It came into force from October 1, 1963.

Safety measures in mines are undertaken under the Mines Act, 1952 and the rules, regulations and bye-laws made there under. This Act provides for the regulations of labour and safety in mines.

The Beedi Workers Welfare Fund Act, 1976 and The Cine Workers Welfare Fund Act, 1981 provide welfare facilities to the workers employed in the Beedi and Cinema industries.

LABOUR COMMISSION—The National Commission of Labour, appointed in December 1966, consists of 12 members besides the chairman and member-secretary. The Commission includes 4 independent members, one of whom is economist, and four each to represent employers and workers.

INDUSTRIAL RELATIONS

The Central Government have framed model rules under the industrial Employment (Standing Orders) Act, 1946 for adoption by industrial establishments employing 100 or more workers. The Act, as modified in 1961, inter alia, empowers the appropriate Government to extend its provision to establishments employing less than 100 workers.

The Central Evaluation and Implementation Division persuades the parties to withdraw the cases pending in higher courts or the Supreme Court. The Central Employers and Workers Organisation have set up committee for dissuading their affiliate members from filing appeals in higher courts against judgements of Industrial Tribunals or Labour Courts.

The Chief Labour Commissioner (Central) is the head of the Central Industrial Relations Machinery. There are 18 regions each headed by a Regional Labour Commissioner with head quarters at Ajmer, Asansol, Bangalore, Bhubaneswar, Bombay, Calcutta, Chandigesh, Dhanbad, Guwahati, Hyderabad, Jabalpur, Kanpur, Madras, Nagpur, Patna, Ahmedabad, Cochin and New Delhi. The field organisation has also two Deputy Chief Labour Commissioners, 75 Assistant Labour Commissioners and 164 Labour Enforcement officers. The Machinery is responsible for prevention, investigation, and settlement of industrial disputes under Industrial Disputes Act, 1947 and various Labour laws.

There are 11 Industrial Tribunal-cum-Labour Courts at present for dealing with disputes in the Central sphere. Of these, 2 are located at Dhanbad, 2 at Bombay and one each at Asansol, Calcutta, New Delhi, Jabalpur, Chandigarh, Kanpur and Bangalore. The industrial tribunals and labour courts set up by the State Governments are also utilised by the Central Governments for adjudication of industrial disputes.

There is one whole-time Central Court at Dhanbad. The Labour Courts set up by the State Government/Administrations, except those in Goa, Daman and Diu, Bihar, West Bengal, Manipur and Tripura have also been specified as Labour Courts for the determination of money-value of benefits under the Industrial Disputes Act, 1947. The State Government/Administration Labour Courts at Delhi, Calcutta, Quilon and Bangalore have also been specified as Labour Courts for dealing with question relating to the application or the interpretation of certified standing orders under the Industrial Employment (Standing Orders) Act, 1946.

Under the Industrial Disputes Act, 1947, 893 Workers Committee in the Central undertaken are now functioning.

Tripartite machinery at the Centre mainly consists of the Indian Labour Conference, the Standing Labour Committee, the Industrial Committees and the Committee on Conventions. There is also the Labour Minister, Conference which is closely associated with the machinery, though not tripartite in character.

MANDAYS LOST—Total time loss due to strike and lock-outs during 1988 was 23.10 million mandays.

Total number of strikes and lockouts during 1988 were 1156.

WORKERS' PARTICIPATION IN MANAGEMENT—A Scheme for workers' participation in industry at shop-floor, and plant levels, applicable to manufacturing and mining units employing 500 or more workers was introduced in October 1975. Another scheme for workers' participation in management in commercial and service organisation in the public sector, having large scale public dealings and employing at least 100 persons, was announced in January 1977. The Scheme of workers' participation in Management notified by the Government on 30th December, 1983, is applicable to all Central, Public Sector Enterprises.

According to information available about 100 public sector enterprises have implemented the Scheme of Workers' participation in Management at either shop floor or/and plant levels.

SOCIAL SECURITY

Employees State Insurance Act of 1948 applies to all perennial factories using power and employing 20 or more persons and covers labourers and electrical staff with monthly earning upto Rs. 400. It is now being gradually extended by the State Government to smaller factories, hotels, restaurants, shops, cinema, etc. employing 20 or more persons. It covers

those drawing wages not exceeding Rs. 1,600/- per month. ESI now covers 61.07 lakhs employees at 551 centres.

The Corporation has so far constructed and put into use 145 full fledged hospitals and annexes with 23,928 beds and 2,104 beds respectively and 1,250 dispensaries. No. of patients treated in hospitals during 1988-89 has 3.18 lakhs.

Minimum Wages Act of 1948 provides for fixing minimum rates of wages in certain employment, Wages mean all remuneration, capable of being expressed in terms of money but does not include the value of (a) any housing accommodation, supply of light, water, medical attention etc. ; or (b) any other amenity or any service excluded by general or special order of the appropriate Government.

Employees Provident Fund Act, 1952, which was originally applied to 6 major industries to provide for the benefit of compulsory provident fund to industrial workers, now covers 173 industries and establishments. The Act applies to such factories and establishments in the industries as have completed three years of existence, where the employment strength is 20 or more but less than 50 persons. As on 31st March, 1989 the membership of the fund was 138.39 lakhs.

The Employees' Family Pension Scheme, 1971 is funded by contributions from employers, employees and Government. The administrative Govt. of the scheme is not entirely by the Government.

The Employees' Deposit Linked Insurance Scheme, 1976 is founded by employees and the Government. The administrative cost is shared by the employee and the Government.

The Delhi Relief Fund as set up in January 1964 to afford financial help to the heirs of deceased members of unexempted establishments so that a minimum of Rs. 500 was assured to them.

Coal Mines Provident Fund Schemes 1948 framed under the Coal Mines Provident Fund and Bonus Schemes Act, 1948 applies to all mines in India. Both the employees and the employers are to contribute a compulsory 8 p.c. of the total emolument of the employees. The total number of coal mines and ancillary organisation covered under the Scheme was 944 at the end of 1977.

A Scheme of Family Pension-Cum Assurance applicable to members of the Employees' Provident Fund and the Coal Mines Provident Fund was introduced during 1970-71.

Legislation regarding the payment of maternity benefits is in operation in almost all the States. Two Central Acts—the Employees' State Insurance Act, 1948 and the Maternity Benefit Act, 1961 also regulate payment of maternity benefits. The Maternity Benefits Act, 1961 was enacted to provide uniform standards of maternity protection.

Workmen's Compensation Act, 1923 as amended in 1962 raised the wage limit for the coverage of compensation under the Act from Rs. 400 to Rs. 500 and revised the rates of compensation.

2,35,670 bonded labourers have been identified and released up to 31st March, 1988. The Employees State Insurance Scheme, was extended to certain areas in the States of Bihar, Gujarat, Karnataka, Kerala, Maharashtra, Meghalaya, Orissa, Punjab, Rajasthan, Tamil Nadu and Uttar Pradesh.

EMPLOYMENT EXCHANGE—The number of employment exchanges in the country (excluding 69 word. Employees Information Guidance Bureaux) was 840 at the end of June, 1988.

GRATUITY—The Payment of Gratuity Act, 1972 provides for the payment of gratuity to employees drawing Rs.1,000 or less per month as wages. The Act is applicable to companies, every shop or establishment employing 10 or more persons and covered by any of the State Shops and Establishments Act. The qualifying period of service for entitlement to gratuity is 5 years except in cases of death or disablement due to accident or disease. This is payable at the rate of 15 days' wages for each completed year of service, subject to a maximum of 20 month's wages.

BONUS—The Paying of Bonus Act, 1966 was amended on 11th September, 1974 providing for payment of minimum bonus if 8.33 per cent for accounting year commencing on any day in 1973 and to deposit in certain cases the excess amount of bonus in the provident fund account of the beneficiaries. Bonus can be paid upto 20 per cent subject to the availability of allocable surplus. The limit of salary for eligibility under the Act is Rs. 2,500 per month. The payment is subject to the stipulation that the Bonus in respect of employees drawing wages on salary between Rs. 1,600 and Rs. 2,500 per mensem would be calculated as if their salary on wages is Rs. 1,600 per month.

TRAINING AND EDUCATION—WORKERS EDUCATION—The Central Board for Workers' Education, consisting of representatives of the Government, both Central and State organisations of employees and labours, and educationists, is a registered body which implements training of top-level instructions, teacher-workers and workers. The Indian Institute of Workers' Education started functioning from March 1970 and is intended to provide regular training programmes and refresher courses for Education officers, Trade Unionist and others. All the important industrial centres are now covered by a net-work of 43 Regional and 88 Sub-Regional Centres.

The Indian Institute of Labour Studies, set up in September 1964 has been imparting service training to the officers of the Central and State Government as well as of the public sector undertakings.

The Central Labour Institute and the three Regional Labour Institutes of Calcutta, Kanpur and Madras have been continuing to conduct training programmes on industrial safety and hygiene, productivity supervisory development and related subjects.

A National Institute for Labour Research has been set up to undertake research on labour matters.

The National Labour Institute has been set up by the Union Ministry of Labour on 1st July, 1974.

A National Council for Training in Vocational Trades has been set up to advise the Government of India on all questions of training policy to coordinate vocational training and to lay down uniform standards.

PRODUCTIVITY CENTRE OF THE CENTRAL LABOUR INSTITUTE—The objective of the centre is to create an attitude receptive to the idea of productivity and to further the application of modern industrial engineering techniques for raising productivity and improving conditions or works.

INDIAN AND THE I.L.O.

India has been an active member of the I.L.O. since its very inception in 1919 and is a permanent member of the Government body since 1922 and also a prominent member of the organisation as one of the ten leading industrial countries of the world.

India has been receiving technical assistance from the I.L.O. since 1951 in the following fields—(a) Social Security, (b) Training-within-industry, (c) Vocational guidance, (d) Employment Service, (e) Productivity.

NATIONAL EMPLOYMENT

The Employment Exchanges, entrusted with the task of finding employment for displaced persons, are under the control of the State Governments since November 1956. The Central Government has now limited their responsibilities to policy making, co-ordination of procedure and standards and to rendering assistance, wherever needed. The Employment Exchanges (Compulsory Notification of Vacancies) Act of 1960 makes it compulsory for employers usually employing 25 or more workers, to notify their vacancies to the Exchanges.

A Central Committee on Employment constituted in 1958, advised the Government of India on problems of employment, creation of employment opportunities and the working of the National Employment Service.

The total number of Employment Exchanges functioning in the country at the end of June, 1988 was 840. In addition there were 137 Employment Information and Assistance Bureaux. There were 300.50 lakhs workseekers on the Live Register of Employment Exchanges in Dec., 1988.

FILMS

PROGRESS OF CINEMA IN INDIA—Cinema first came to India on July 7, 1896, when a team of Lumiere agents began public showing of cinematograph films at Watson's Hotel, Bombay and one week later at the Novelty Theatre. About the same time one Mr. Stevens started exhibiting motion picture shorts on the board of Star Theatre in Calcutta. Hiralal Sen, a Bengali enthusiast, took interest in the exhibition as well as production of motion Pictures and in bringing necessary equipment from England. He started showing them by 1898, and by 1901, he successfully produced several motion picture shorts for depicting scenes from popular Bengali dramas and these were regularly screened at the Classic Theatre, Calcutta. Credit of producing the first feature film in India, Raja Harishchandra, 3700 ft. long, goes to Dhundiraj Govind Phalke, more popularly known as Dadasheb Phalke. The picture opened at the Coronation Cinema in Bombay in April 1913. Since that time onwards, the film industry in India has been making steady progress. While in Bombay, Hindusthan, Imperial and Kohinoor Film Cos. were the major film-producing concerns, in Calcutta Madan Theatres Ltd. reigned supreme in the silent days not only as producers but also the exhibitors of films having a chain of no less than 172 houses all over India, Burma and Sri Lanka.

At first, India was content to see only foreign films mainly imported by Pathe-India established in Bombay in as early as 1907 but soon, from 1913 onwards indigenous films began to be produced in both Calcutta and Bombay and in 1926-27, 15 p.c. of the feature films released in India were Indian, while 85 p.c. were foreign mostly American. This position changed subsequently in 1930-31, when the percentage rose to 50-50.

India first produced its talkie, Alam Ara of the Imperial Film Co. Bombay in 1930. By 1935, the conversion of silent era in India to talkies was complete. Today, India is the second largest producer of films in the world.

GOVERNMENT OF INDIA'S CONTROL—The Ministry of Information and Broadcasting controls everything concerning films in India, including Films Division to the Central Government.

FILMS DIVISION—established in 1948 and with its head-quarters at Malabar Hill, Bombay, it consists of the following 5 distinct sections—Documentary Section, Newsreel Section, Distribution Section, Public Relations Section and Administrative Section. The Division has ten Branch offices at Bangalore, Bombay, Calcutta, Hyderabad, Lucknow, Madras, Madurai, Nagpur, Trivandrum and Vijayawada. The main function of the Division is the production and distribution of documentaries, newsreel and films for general information, education, instruction and culture of the people.

Every Cinema house is required under the terms of exhibit at each performance, not more than 609.60 metres of films approved by the authorities as documentary films, films of scientific and educational value or films dealing with news current events. Under the compulsory exhibition scheme over 13,183 Cinema hall in India screen the Divisions documentary films and news magazines in every show. These are supplied by the Film Division on payment of rental not exceeding one p.c. of the average weekly collections.

During April-December, 1988 the Division produce 138 documentary films, of these, 127 films were produced departmentally and 10 films through independent producers on contract 23 news magazines were also produced and released during the period.

CHILDREN'S FILMS SOCIETY—The Government takes special interest in production of children's film. For this purpose, a children's Films Society was registered in May 1955,

to undertake aid, sponsor, promote and co-ordinate the production, distribution and exhibition of films, specially suitable for children and adolescents. The Society receives an annual grant-in-aid from the Central Government for the production of children's films. Its headquarters is at Bombay and zonal offices at New Delhi, Madras and Calcutta. State Committees have also been formed in a number of State to spread the children's films movement.

FILM ADVISORY BOARD—The Government had constituted in 1946, a film Advisory Board which recommends documentaries and newsreels produced by the Films Division and by their private producing for certifying them as approved films. It also acts as an advisory board to the Films Division for the production of documentaries.

FILM CONSULTATIVE COMMITTEE—The Government had set up in 1962, a Film Consultative Committee to bring about liaison between the government and the film industry on matters of common interest and to advise the Government on matters affecting the film industry and its future development. The Committee consists of 5 eminent members of the public and 15 others drawn from different spheres of the film industry, and has the Ministry for Information and Broadcasting as its Chairman.

NATIONAL FILM DEVELOPMENT CORPORATION—established on April, 11, 1980 with the amalgamation of F. F. C and IMPEC with the broad objective to plan, promote and organise on integrated and efficient development of the film industry. NFDC continued to finance and produce films of well-known directors. During the year ending December, 1988, loan was sanctioned to 175 feature films and 59 documentaries. As a canalising agency for the import of feature film, NFDC imported 36 films between April to December, 1988. Direct export by NFDC of Indian Feature Film during the period April to December, 1988 was Rs. 117 lakhs. NFDC has been acquiring video rights of good foreign films for the manufacture and distribution of recorded cassettes. By marketing legally sanctioned video cassette to libraries and individuals it has opened a legitimate channel for video distribution. The corporation took lead in the fight against video piracy and jointly with the Film Industry succeeded in establishing an anti-video piracy organisation styled as Indian Federation Against Copyright Theft (INFACT). Since inception, 123 cinema theatres involving Rs. 753.58 lakhs NFDC's share was financed, out of which 82 theatres started Commercial exhibition. Apart from this, the NFDC has a sub-titling centre at Vashi, a 16 mm Film Centre at Calcutta, and a video Centre at Madras.

FILM FINANCE CORPORATION—was set up at Bombay on March 20, 1960. On the recommendation of the Film Inquiry Committee, with an authorised capital of Rs. 1 crore of which Rs. 50 lakhs was issued and wholly subscribed by the Central Government. The main object of the Corporation is to assist the film industry by providing finance at a reasonable rate of interest for raising the standard and quality of films produced. The loans are generally given up to Rs. 5 lakhs per film at an interest of 12 p.c. subject to a rebate of 2 p.c. for prompt and regular repayments. In order to ensure a high standard of films, the Corporation has the right to examine script before sanctioning loans. In no case, the Corporation will finance the entire expenditure of a film, although the assistance may cover 60 or 70 p.c. of the total cost.

FILM AND TELEVISION INSTITUTE OF INDIA—was set up at Pune on March 20, 1961, in pursuance of the recommendations of the Film Inquiry Committee. The main function of the Institute are : (i) to impart training in technical subjects related to films, (ii) awarding of diplomas to successful trainees, (iii) co-ordination of schemes for training film technicians in India and (iv) maintenance of a library of important films produced in India and abroad. The Institute also offers regular courses of two or three years duration in 6 subjects, namely, advanced direction, film acting, screen-play writing, motion picture photography, sound recording and sound engineering and films editing.

TAXATION—The film industry is now under various Central Government and State Government taxes. Also there are important duties on cinema equipment, rental on

Government-approved films the showing of which is compulsory, fees for censorships of films, income-tax, taxes by State as entertainment tax, licence fee for operating cinemas and storage of films, property-tax, octroi duty and terminal tax, taxes on the display of posters and other advertisements etc., etc.

CENSORSHIP OF FILMS—The Central Board of Film Certification is a statutory body constituted in Jan. 1951, for certifying films for public exhibition throughout India. The Board, appointed by the Government of India, at present consists of a chairman and 9 honorary non-official members. The head office of the Board is at Bombay and its 6 regional offices are at Bombay, Calcutta, Madras, Bangalore, Trivandrum and Hyderabad. Every film is viewed initially by an Examining Committee consisting of Regional Officer and the members of the Advisory Panels, constituted at Bombay, Calcutta, Madras, Bangalore and Trivandrum. The Board may refuse a certificate for public exhibition of any film on the recommendations of the Examining Committee, or grant it with or without cuts or modifications to be carried out in the film. Where the decision of the Examination Committees is not acceptable to the applicant concerned, he may ask for its consideration by a Revising Committee. A film may also be referred to the Revising Committee by the Chairman on his own initiative. Finally an appeal against the decision of the Board may be made to the Central Government.

The Film certification Appellate Tribunal constituted in March, 1984 with headquarters at New Delhi continued to hear appeals against decisions of the Central Board of Film Certification.

Certificates for unrestricted public exhibition are called Universal certificates and bear a 'U' mark. Film restricted to adults only, i.e. bear persons above the age of 18 years, are given 'Adult' certificates which bear an 'A' mark. If any portion of a film is excised, triangular mark is put at the left hand bottom corner of the certificate given to it.

During 1987, 806 Indian feature films were certified out of which 167 films were Tamil, 163 films were Telugu, and 150 films were Hindi. 97 p.c. of the films produced were in colour. Out of 773 films certified in 1988, 471 were granted "U" certificates, 95 "UA" certificates and 207 "A" certificates. Indian vedio feature films certificate during the year numbered 41.

FILM FEDERATION OF INDIA—This has been established to promote commerce in general and in particular, to promote, protect and watch over the interest of the Indian film industry and persons thereof ; to regulate their method of doing business ; to maintain uniformity in rules, regulations and usage of the film industry ; to settle disputes by regulation or otherwise ; to take all steps for promoting or opposing legislation or execute action affecting the economic interest of the film industry.

NATIONAL FILM ARCHIVE OF INDIA—was set up in February, 1964. Its head quarters is at Pune and regional offices at Calcutta, Bangalore and Trivandrum. There is an Advisory Committee consisting of 5 non-official and 4 official members, to advise the Central Government on matters relating to the Archive ; Various State Award-winning films have been sent for preservation to the Archive. It is affiliated to the International Federation of Film Archives through which more than 40 Archives in different film producing countries collaborate with each other.

The annual course in film appreciation was held at Pune in which seventy candidates from various deciples participated. In addition, the Archive organised a series of special course on Cinema for specific groups at Bombay, Clacutta, Hutheesing, Ahemedabad, Heggodu, Madras and Bhopal.

NATIONAL AWARDS FOR FILMS—were instituted in 1964 to encourage the production of films of good quality and standard. These are awarded sperately for feature, documentation of children's films as well as for educational films. Apart from the Certificates of Merit on an all-India and regional basis, cash amounts are given to the producers and directors of the award winning film (See index).

EXPORT OF INDIAN FILMS—An Export Promotion Committee for films, with head-quarters in New Delhi, has been constituted with the object of suggesting ways and means for promoting exports of Indian films.

INDIAN MOTION PICTURES EXPORT CORPORATION LTD.—The main objective of the Corporation is to expand the export of Indian films to the Traditional markets and also to introduce them to the new markets of Europe and America. It is also empowered to execute agreements with foreign organisations for the export or import of films. The Corporation was registered on Sept. 19, 1963, with a total share capital of Rs. 75 lakhs to be subscribed by both the industry and the Central Government. It has sub-committees at Bombay, Calcutta and Madras. It is a subsidiary of the State Trading Corporation Ltd., New Delhi.

IMPORTANT FILM DATES IN INDIA

- 1896 First exhibition of cinema in India by Lumiere Brothers on July 7.
- 1901 First film production in India by Hiralal Sen (Royal Bioscope Co.) in Calcutta with a series of shorts shown in Bengali theatres.
- 1907 Elphinstone Picture Palace, first cinema house opened in Calcutta by J.F. Madan.
- 1913 Second Indian film, Harishchandra, produced by Dadashed Phalke, released at Coronation cinema house in Bombay in April.
- 1917 First Indian film produced in Bengali is Nala Damayanti by J.F. Madan.
- 1918 Indian Cinematography Act passed.
- 1920 Censorship of films started in Calcutta, Bombay and Madras.
- 1921 First picture produced in South India is Bhishma Pratigna by Star of the East Film Co.
- 1922 Entertainment tax introduced in Bengal.
- 1927 Government of India appointed a Cinematography Inquiry Committee.
- 1929 First talkie in India, Universal's Melody of Love shown at Elphinstone Picture Palace, Calcutta.
- 1930 Alam Ara, the first Indian talkie by Imperial Film Co. of Bombay, released on March 14, The second talkie is Shirin Farhad produced by Madan Theatres Ltd., Calcutta.
- 1931 Jamai Sasthi is the First talkie in Bengali. Prabhat Studio's Sairendri is the first Indian coloured film, though coloured in Germany. Imperial's Kishan Kanya is the first cine-coloured film done in India. Karma is first Indo-English film (talkie) by Himangsu Rai, the founder of Bombay Talkies but produced in England. Aparadhi, a Bengali silent picture, need for the first time artificial light for shooting.
- 1932 Background music introduced for the first time in Chandidas, a Bengali film, directed by Debaki Kumar Bose.
- 1934 Playback system introduced for the first time in Bhagyachakra, a Bengali film, directed by Nitin Bose.
- 1939 Silver Jubilee of the Industry in India.
- 1940 Court Dancer directed by Madhu Bose, is the first Indo-English talkie made in India.
- 1943 Information Films of India, set up by the Government of India.
- 1949 Film Inquiry Committee appointed by the Government of India.
- 1951 The Central Board of Film Censors established in Bombay on Jan. 15.
- 1954 State Film Awards inaugurated by the Government of India.
- 1955 The Children's Film Society registered in May. Film Seminar inaugurated in Delhi.
- 1956 Silver Jubilee of Indian talkie celebrated.
- 1960 Film Finance Corporation set up in Bombay on March 20; first coloured cartoon film for children produced by the Films Division. Banyan Tree released on May 20.
- 1961 Second International Film Festival held in Delhi in October.
- 1962 The Film Consultative Committee set up by the Government of India.
- 1965 Third International Film Festival held for the first time on competitive basis in Delhi, Calcutta and Madras in January.
- 1969 Fourth International Film Festival held in Delhi.
- 1975 Fifth International film Festival held in Delhi.
- 1976 Sixth International Film Festival held in Delhi.

- 1979 Seventh International Film Festival held in Delhi.
- 1980 Filmotsav in Bangalore.
- 1981 Eighth International Film Festival held in Delhi.
- 1982 Filmotsav in Calcutta.
- 1983 Ninth International Film Festival held in Delhi.
- 1984 Filmotsav in Bombay.
- 1985 Tenth International Film Festival held in Delhi.
- 1986 Filmotsav in Hyderabad.
- 1987 Eleventh International Film Festival held in Delhi.
- 1988 Filmotsav in Trivandrum.
- 1989 Twelveth International Film Festival held in Delhi.

39th Berlin International Film Festival, 1988

- Best Film (Golden Bear) — 'The Rain Man' directed by Barry Levinson.
- Best Actor — Gene Hackman in 'Mississippi Burning'
- Best Actress — Isabelle Adjani in "Camille Claudel".
- Best Director — Dusan Hanak for "Ja Milujen, Ty Miluges".
- Best Screenplay — Eric Bogosian for "Oliver Stone's Talk Radio".
- Special Jury Award — "Hakayitz Shel Aviya" directed by Eli Cohen.

42nd Cannes Film Festival, 1988.

- Best Film (Golden Palm) — "Sex, Lies and Videotape" by Steven Soderbergh.
- Best Actor — James Spader in "Sex, Lies and Videotape".
- Best Actress — Meryl Streep in "A Cry in the Dark".
- Jury's Special Prize — "Trop Belle Pour Toi" and "Nuovo Grena Paradiso".
- Best Director — Emir Kusturica for "Dom za Vesanje" (Yugoslavia)
- Best Artistic Contribution — "Mystery Train" by Jim Jarmusch.
- Jury Prize — "Jesus de Montreal" directed by Denys Arcand.

OSCAR AWARDS, 1988

- Best Film — "The Rain Man"
- Best Actor — Dustin Hoffman for "The Rain Man".
- Best Actress — Jodie Foster for "The Accused".
- Best Supporting Actor — Kevin Kline for "Fish Called Wanda".
- Best Supporting Actress — Geena Davis for "The Accidental Tourists."
- Best Screenplay, Picture and Best Direction — "The Rain Man".
- Best Art Direction, Best Costume Design and Best Adapted Screenplay — "Dangerous Liaisons" (France).
- Best Sound — "Bird".
- Best Foreign Language Film — "Pelle the conqueror" (Denmark)

36th NATIONAL FILM FESTIVAL 1989

- Swarna Kamal (Best Film) — "Piravi" (Malayalam).
- Best Actor — Premji for "Piravi" (Malayalam).
- Best Supporting Actor — Pankaj Kapoor in "Raakh" (Hindi).
- Best Actress — Archana in "Dari" (Telugu).
- Best Supporting Actress — Uttara Bhavkar in "Ek din Achanak" (Hindi).
- Best Audiography — Krishnan for "Piravi" (Malayalam).
- Best Art Direction — T. Vaikunthan for "Dari" (Telugu).
- Best Costume Design — Sudarshan for "Dari" (Telugu).
- Best Film Award for wholerome Entertainment — "Qayamat Se Quayamat Tak" (Hindi).
- Best English Longuage Film — "In which Anrie gives it There Ones" directed by Pradip Kishen.
- Best Cinematography — A. K. Bir for "Dari" (Telugu).

- Best Direction—Shaji-N. Karun for "Piravi" (Malayalam).
 Best Child Artist—Shafiq Syed for "Salam Bombay" (Hindi).
 Best Male Playback Singer—S. P. Balasubramaniam for "Rudraveena". (Telugu).
 Best Female Playback Singer—Chitra for "Vaishali".
 Indira Gandhi Award for the Best First film of a Director—Nabendu Ghosh for "Trishagni" (Hindi).
 Nargis Dutta Award—"Rudraveena" (Telugu).
 Best Children's film Award—"Manu Uncle" (Malayalam).

COMPANIES

DEPARTMENT OF COMPANY AFFAIRS—A full fledged Department of Company Law Administration was created in August in 1955. This Department has been renamed as the Department of Company Affairs. The responsibility of this Department includes administration of the Companies Act, 1956. The Department of the Company Affairs was made a Department of the reconstituted Ministry of Industry under the Presidential Order No. 74/2/1/85-CAB, dated 25th September 1985. Other ancillary responsibilities of the Department include profession of Chartered Accountants, Cost and Works Accountants, and the Company Secretaries. The administration of the Monopolies and Restrictive Trade Practices Act, 1969 which came into force with effect from 1st June, 1970, is also handled by the Department. The profession of accountancy is governed by the Chartered Accountants Act, 1949, under which the Institute of Chartered Accountants has been set up in New Delhi. There are also regional bodies under the Institute functioning at important centres. With regard to the Cost and Works Accountancy, the Institute of Costs and Works Accountants in Calcutta was accorded Government recognition in 1957 and necessary Act was passed in 1959.

In addition to the above set up, the Department has also established 4 Regional Directorates at Bombay, Calcutta, Madras and Kanpur, consisting of Regional Director, a Company Accountant, a Company Law Solicitor etc. in each region. The functions of these Directorates are :

1. To remain in close connection with the State Government.
2. To watch the performance of the Registrar of Companies.
3. To watch the progress of enquires and investigation of the affairs of the Companies by the Inspectors.
4. To remain in touch with the important commercial and industrial developments in the States and the trends of Company managements and in securing the enforcement of the Company Law.

There is also Directorate of Inspector and Investigation to ensure effective implementation of the Act and to check instances of defaults committed.

Company Law Board—was set-up in February 1964 with a view to bringing about greater efficiency in the administration of the Companies Act.

Company Law Advisory Committee—Sections 410 of the Companies Act, 1956 as amended by Section 53 of the Companies (Amendment) Act, Provides for the constitution by the Central Government of an Advisory Committee for the purpose of advising the Central Government and the Company Law Board on such matters rising out of administration of the Act as may be referred to it. The first Advisory Committee was set up on December 1, 1965.

INSTITUTE OF COMPANY SECRETARIES OF INDIA—has been formed and registered as a company under section 25, of the Companies Act, 1956 on October 4, 1968 with its registered office at New Delhi and has started functioning with the effect from 1.1.1969. The work relating to Company Secretaries Examination and all allied matters have been taken over by this newly formed Institute. The Company Secretaries Act, 1980 came into force on 1st January, 1981.

MONOPOLIES AND RESTRICTIVE TRADE PRACTICES COMMITTEE—The Commission which at present consists of a Chairman and two Members has to render advice to

the Central Government in regard to such cases of substantial expansion of undertakings, setting up of new undertakings, merger, amalgamation, takeover, etc., of undertakings as attract the provisions of Sections 21, 22 and 23 respectively of the Act and as may be referred to it by Central Government. Similarly, in regard to case of monopolistic trade practices the Commission has an advisory role, in regard to restrictive trade practices it is vested with full regulatory powers.

COMPANIES AT WORK

As on 31st March, 1988 1,58,138 companies limited by shares with an aggregate paid-up capital of Rs. 46,446.9 crores were at work in the various States and Union Territories of India. These companies comprised 1,104 Government Companies and 1,54,445 non-Government companies with paid-up capital Rs. 36,031.2 crores and Rs. 10,415.7 crores respectively. Out of 1,104 Government Companies 474 were Public Limited Companies having paid-up Capital of Rs. 10,188.9 crores and 630 Private Limited Companies having paid-up Capital of Rs. 25,842.3 crores. Out of 1,54,445 non-Government companies, 17,985 are Public Limited Companies having paid-up Capital of Rs. 7,758.5 crores and 1,36,460 Private Limited Companies having paid up Capital of Rs. 2657.2 crores.

In addition to the companies limited by shares there were 1,879 Companies limited by guarantee at work in the country as on the 31st March, 1988.

There were also 309 companies with unlimited liability at work in the in the country as on March, 1988. All these companies were private companies.

There are also 401 Foreign Companies at work in the Country as on 31st March, 1988.

NEW REGISTRATIONS

During the year 1987-88, 17,578 new companies limited by shares having an authorised capital of Rs. 6,395.7 crores were registered in India under the Companies Act, 1956. Of these 21 were Government companies 17,557 were non-Government companies with an authorised capital of Rs. 4,260.3 crores and 2,135.4 crores respectively. During this period, 10 non-Government company with unlimited liability and 64 non-Government companies with liability limited by guarantee and associations not for profit were also registered.

LIQUIDATIONS

During the year 1987-88, 273 companies limited by shares were reported to have ceased to work either by going into liquidation or by being struck off under Section 560 (5) of the Companies Act, 1956.

INCREASE IN PAID-UP CAPITAL OF COMPANIES (GOVERNMENT AND NON-GOVERNMENT)

During the year 1987-88 an amount of Rs. 4,522.8 crores was reported to have been raised by way of paid-up capital by companies limited by shares. Of these the share of Government Companies was Rs. 3,140 crores and of non-Government companies was Rs. 1382.8 crores. This amount includes Rs. 47 crores as bonus issue.

FOREIGN COMPANIES

As on 31.3.1988, 401 Foreign Companies as defined under Section 591 of the Companies Act, 1956 were at work in the country. 31 foreign companies established places of business in India and 1 company was reported to have closed down during 1987-88. The number of foreign companies at work as at the end of each of the preceding six financial years is shown in Table below.

NUMBER OF FOREIGN COMPANIES AT WORK

As at	No. of Foreign Companies
31.3.1981	300
31.3.1982	311
31.3.1983	320
31.3.1984	326
31.3.1985	324
31.3.1986	335
31.3.1987	371
31.3.1988	401

New Capital Issues

During the year 1987-88, 119 non-Government non-financial public limited companies issued capital for an amount of Rs. 563 crores through prospectus. Of the 119 Companies, which issued prospectus during 1987-88, 102 companies invited applications for equity share capital. The remaining 17 companies invited applications for equity shares as well as debentures (12) or for debenture only (5). The issue of debentures related to convertible debenture (5) and equity linked debenture (12). Of the total amount of Rs. 563 crores issued through the prospectus during 1987-88, Rs. 355 crores was in respect of equity shares and the balance of Rs. 208 crores was for debentures. Capital amounting to Rs. 316 crores on 56.1% of the total amount covered by the prospectus was offered to the public and the balance of Rs. 247 crores on 43.9% was earmarked for firm allotment to the promoters, directors, existing shareholders and employees of the companies, non resident Indians, financial institutions, banks, and State Industrial Development Corporation. While Directors, promoters and their relatives accounted for 17.4% of the amount earmarked for firm allotment, non-Resident Indians accounted for 23.1%, share holder for 35.6% and financial institutions and State Industrial Corporation for 20%.

Out of the total issue, Rs. 195 crores or 34.7% was under-written, while the firms of brokers underwrote Rs. 39 crores, or 20% of the total amount underwritten, financial institution and other public bodies underwrote the balance of Rs. 156 crores.

STATEWISE DISTRIBUTION OF COMPANIES LIMITED BY SHARES AT WORK IN 1988

Andhra Pradesh	7,589	Orissa	1,547
Assam	1,501	Punjab	3,800
Bihar	2,272	Rajasthan	3,281
Gujrat	9,336	Tamil Nadu	11,740
Haryana	1,326	Tripura	25
Himachal Pradesh	707	Uttar Pradesh	7,099
Jammu & Kashmir	745	West Bengal	23,883
Karnataka	7,419	A & N Island	7
Kerala	3,264	Arunachal Pradesh	59
Madhya Pradesh	3,565	Chandigarh	1,312
Maharashtra	36,971	D & N Haveli	18
Manipur	35	Delhi	26,545
Meghalaya	117	Goa, Daman & Diu	743
Nagaland	155	Mizoram	5
		Pondichery	483

COMPANY LIMITED BY SHARES AT WORK

(Capital in crores of Rs.)

GOVERNMENT COMPANIES *

Year ending	No.	Public Ltd.		Private Ltd.		Total
		Paid-up Capital	No.	Paid-up Capital	No.	Paid-up Capital
1	2	3	4	5	6	7
31.3.76	243	468.5	408	5,653.7	651	6,122.2
31.3.77	273	591.9	528	6,582.6	701	7,174.5
31.3.78	300	725.5	445	7,802.1	745	8,527.6
31.3.79	321	852.7	461	7,462.5	782	8,315.2
31.3.80	353	973.6	472	8,779.7	825	9,753.3
31.3.81	352	1,095.9	499	8,757.2	851	10,853.1

Year ending	No.	Public Ltd.		Private Ltd.		Total
		Paid-up Capital	No.	Paid-up Capital	No.	Paid-up Capital
1	2	3	4	5	6	7
31.3.82	372	1,266.1	522	11,613.0	894	12,879.1
31.3.83	409	1,499.8	534	13,222.7	943	14,722.5
31.3.84	425	1,790.6	548	17,720.0	973	19,510.6
31.3.85	417	2,026.4	593	19,466.4	980	21,492.8
31.3.86	443	5,356.0	577	21,731.8	1020	27,087.8
31.3.87	466	7,557.4	587	23,566.7	1053	27,087.8
31.3.88	474	10,188.9	630	25,842.3	1104	36,031.2

NON-GOVERNMENT COMPANIES

Year ending	No.	Public Ltd.		Private Ltd.		Total
		Paid-up Capital	No.	Paid-up Capital	No.	Paid-up Capital
1	2	3	4	5	6	7
31.3.76	7465	2,536.1	35,149	783.3	42,614	3,319.4
31.3.77	7585	2,554.4	37,346	819.3	44,931	3,373.7
31.3.78	7725	2,649.4	39,485	847.3	47,210	3,496.7
31.3.79	7893	2,688.0	42,376	874.9	50,269	3,562.9
31.3.80	8225	2,751.5	46,730	906.8	54,955	3,658.3
31.3.81	8749	2,856.2	52,401	967.2	61,150	3,823.4
31.3.82	9530	3,022.5	61,265	1,060.5	70,795	4,083.0
31.3.83	11,371	3,839.3	70,589	1,347.1	81,960	5,186.4
31.3.84	12,523	3,996.2	80,768	1,454.9	93,291	5,451.1
31.3.85	14,149	4,260.4	92,240	1,578.1	1,06,389	5,838.5
31.3.86	15,682	6,420.7	1,05,457	2,175.7	1,21,139	8,596.4
31.3.87	17,101	6,966.6	1,20,032	2,416.6	1,37,133	9,383.7
31.3.88	17,985	7,758.5	1,36,460	2,657.2	1,54,445	10,415.7

SPORTS

CRICKET

Test and First Class Records

BATTING

HIGHEST TEST INNINGS TOTAL :

903 for 7 wkts. declared, by England against Australia (OVAL), 1938

LOWEST TEST INNINGS TOTAL :

26 by New Zealand against England (AUCKLAND), 1954-55.

HIGHEST INDIVIDUAL TEST INNINGS :

*365 G.S. Sobers (W. Indies) v. Pakistan, Kingston, 1957-58.

RECORD TEST WICKET PARTNERSHIP :

First—413 by V. Mankad (213) & P. Roy (173) : India v. New Zealand (MADRAS), 1955-56.

*Not out.

SECOND—451 by W. H. Ponsford (266) & D. G. Bradman (244) : Australia v England (OVAL), 1934.

THIRD—451 by Javed Miandad (280*) & Mudassar Nazar (231) : Pakistan v India (HYDERABAD), 1982-83.

FOURTH—411 by P. B. H. May (285*) & M. C. Cowdrey (154) : England v West Indies (BIRMINGHAM), 1957.

FIFTH—405 by S. G. Barnes (234) & D. G. Bradman (234) : Australia v. England (SYDNEY), 1946-47.

SIXTH—346 by J. H. Fingleton (136) & D. G. Bradman (270) : Australia v. England (MELBOURNE), 1936-37.

SEVENTH—347 by D. Atkinson (219) & C. Depeiza (112) : West Indies v. Australia (BRIDGETOWN), 1954-55.

EIGHTH—246 by L. E. G. Ames (137) & G. O. Allen (122) : England v. New Zealand (Lords), 1931.

NINTH—190 by Asif Iqbal (146) & Intikhab Alam (51) : Pakistan v. England (OVAL), 1967.

TENTH—151 by B. F. Hastings (110) & R. O. Collinge (68*) : New Zealand vs. Pakistan (AUCKLAND), 1972-73.

HIGHEST RUN AGGREGATE :

D. G. Bradman (Australia) : 99.94 (6996) runs in 52 Test Matches.

HIGHEST TOTAL IN ONE INNINGS OF FIRST CLASS MATCH :

1107—Victoria v. N. S. Wales (MELBOURNE), December 1926.

LOWEST TOTAL IN ONE INNINGS OF A FIRST CLASS MATCH :

12—Oxford University v. M. C. C. (OXFORD), May 1877.

12—Northamptonshire v. Gloucestershire (GLOUCESTER), June 1907.

HIGHEST INDIVIDUAL SCORE IN AN INNINGS OF A FIRST CLASS MATCH :

499 by Hanif Mohammad (Pakistan) for Karachi against Bhawalpur, (Karachi), January, 1959.

MOST HUNDREDS IN A TEST MATCH :

7—England (4) v. Australia (3) NOTTINGHAM, 1938.

7—Australia (5) v. West Indies (2), KINGSTON, 1954-55.

MOST RUNS IN A TEST SERIES :

974 by D. G. Bradman (AUSTRALIA) against England, 1930.

MOST RUN SCORED IN TEST CRICKET :

10,122 runs by Sunil Manohar Gavaskar (INDIA)

MOST RUNS SCORED IN A DAY'S PLAY (Test) :

By a player—309 D. G. Bradman (AUSTRALIA) v. England, LEEDS, 1930.

By a side—503 for 2 wickets : England v. S. Africa, LORD'S 1924.

MOST TEST APPEARANCES :

125 by S. M. Gavaskar (India).

MOST HUNDREDS IN CONSECUTIVE INNINGS :

5 by E. D. Weeks (WEST INDIES), v. England, 1947-48 ; 141, 128, 194, 162 and 101 v. India, 1948-49.

MOST HUNDREDS IN THE TEST CRICKET :

34 in 205 innings in 125 Test by Sunil Manohar Gavaskar (India) upto Mar. 9, 1987.

MOST HUNDREDS IN AN INNINGS :

5 by Australia v. W. Indies, Kingston, 1954-55—R. N. Harvey (204) ; R. G. Archer (128), C. C. McDonald (127), R. Benaud (121) and K. R. Miller (109)

FASTEST TEST DOUBLE CENTURY :

In 225 mins. by S. G. McCabe (AUSTRALIA) v. England, Nottingham, 1938.

FASTEST TEST CENTURY :

In 70 mins. by J. M. Gregory (AUSTRALIA) v. S. Africa, Johannesburg, November, 1921.

FASTEST TEST HALF-CENTURY :

In 20 mins. by S. A. Durrani (INDIA) v. England, Kanpur, 1964.

LONGEST TEST INNINGS :

337 runs in 16 hrs. 10 mins. by Hanif Mohammad (PAKISTAN) against West Indies at Bridgetown, January, 1958.

SLOWEST TEST INNINGS :

18 runs in 3 hrs. 14 mins. by Bill Player (New Zealand) against England at Leeds. 1958.

TIE IN TEST CRICKET :

Australia (505 and 232) v. West India (453 and 284), Brisbane, 1960. Australia v. India Madras, 1986.

DATE OF FIRST OFFICIAL TEST MATCH :

March 15, 1877 - England v. Australia, Melbourne.

BOWLING**MOST WICKETS IN TEST CAREER :**

Richard Hadlee (NEW ZEALAND) 402 wickets in 80 Tests.

Ian Botham (ENGLAND) 373 wickets in 94 Tests.

Dennis Lillee (AUSTRALIA) 355 in 70 Tests.

Bob Willis (ENGLAND) 325 wickets in 90 Tests.

Imran Khan (PAKISTAN) 334 wickets in 73 Tests.

Kapil Dev (INDIA) 355 wickets in 102 Tests.

Lance Gibbs (WEST INDIES) 309 wickets in 79 Tests.

Fred Trueman (ENGLAND) 307 wickets in 67 Tests.

MOST NUMBER OF OVERS IN AN INNINGS :

98 overs by S. Ramadhin (WEST INDIES) v. England, Nottingham, 1950.

HIGHEST TEST WICKETS AGGREGATE :

27.03 in 63 Tests by R. Benaud (AUSTRALIA), 6704 runs and 248 wickets.

TEST HATRICKS :

F. R. Spofforth (AUSTRALIA), v. England, Melbourne, 1878-79.

W. Bates (ENGLAND) v. Australia, Melbourne, 1882-83.

J. Briggs (ENGLAND) v. Australia, Sydney, 1891-92.

G. A. Lohmann (ENGLAND) v. S. Africa, Port Elizabeth, 1895-96.

J. T. Hearne (ENGLAND) v. South Africa, Leeds, 1899.

H. Trumble (AUSTRALIA) v. England, Melbourne, 1901-02 and 1903-04.

T. J. Mathews (AUSTRALIA) v. S. Africa, Manchester, 1912.

M. J. C. Allom, (ENGLAND) v. New Zealand, Christchurch, 1929-30.

T. W. Goddard (ENGLAND) v. S. Africa, Johannesburg, 1938-39.

P. J. Loader (ENGLAND) v. West Indies, Leeds, 1957.

L. Kline (AUSTRALIA) v. S. Africa, Cape Town, 1957-58.

W. Hall (WEST INDIES) v. Pakistan, Lahore, 1958-59.

G. G. Griffin (S. AFRICA) v. England, Lords, 1960.

L. R. Gibbs (W. INDIES) v. Australia, Adelaide, 1960-61.

P. J. Patherick (NEW ZEALAND) v. Pakistan, Karachi, 1976.

Courtney Walsh (WEST INDIES) v. Australia, Brisbane, 1988.

MOST WICKETS IN A TEST INNINGS :

10 for 54 runs by J. C. Laker (ENGLAND) v. Australia, Old Trafford, Manchester, July, 1956.

MOST WICKETS IN A TEST MATCH :

19 for 90 runs, by J. C. Laker (ENGLAND) v. Australia, Old Trafford, Manchester, July 1956.

MOST WICKETS IN A SERIES :

49 for 536 runs, S. F. Barnes (ENGLAND) v. S. Africa, 1913-14

MOST CONSECUTIVE MAIDEN OVERS BOWLED IN TEST INNINGS :

26 by Bapu Nadkarni (INDIA) against England at Madras, Jan. 1964.

WICKET KEEPING**MOST DISMISSALS IN A TEST CAREER :**

255 in 90 Tests by A. P. E. Knott (ENGLAND).

MOST DISMISSALS IN TEST MATCH :

9 by G. R. Langley (AUSTRALIA) v. England, Lords, June 1956.

MOST DIMISSALS IN A TEST INNINGS :

6 by A. Grout (AUSTRALIA), Dennis Lindsay (SOUTH AFRICA), John Murray (ENGLAND) and Syed Kirmani (INDIA)

MOST DISMISSALS IN A SERIES :

23 by J. H. B. Waite (SOUTH AFRICA) v. New Zealand, 1953-54.

23 by A. Grout (AUSTRALIA) v. West Indies, 1961.

MOST VICTIMS IN ONE TEST :

9-(8c, 1st) by G. R. Longely (AUSTRALIA) v. England, Lords, 1956.

FIELDING**MOST CATCHES IN A TEST SERIES :**

15 by J. M. Gregory (AUSTRALIA) Vs. England, 1920-21.

MOST CATCHES IN A TEST :

7 by G. S. Chappel (AUSTRALIA) Vs. England at Perth, 1974-75.

7 by Yujavindra Singh (INDIA) Vs. England at Bangalore, 1976-77.

MOST CATCHES IN A TEST CAREER :

120 by M. C. Cowdrey (England) in 114 Tests.

ATHELETIC

World Records.

MEN

Running	Time	Holder	Year
Marathon	2 h. 0.8 m. 13 s.*	Alberto Salazar (U.S.)	1981
1 mile	3 m. 47.30 s.*	Sebastian Coe (G.B.)	1981
30,00 metres	1 hr. 29 m. 18.8 s.*	Toshikiko Seko (JAPAN)	1981
25,000 "	1 hr. 13 m. 55.8 s.*	Toshikiko Seko (JAPAN)	1981
20,000 "	57 m. 24.2 s.*	Jos Hermens (NETHERLANDS)	1976
15,000 "	44 m. 54.6 s.*	E. Zatopek (CZECHOSLOVAKIA)	1951
10,000 "	27 m. 13.81 s.*	Fernando Mamidi (PORTUGAL)	1984
5,000 "	13 m. 00.40 s.*	Said Aouita (MOROCCO)	1985
3,000 "	7 m. 29.46 s.*	Said Aouta (MOROCCO)	1989
2,000 "	4 m. 51.39 s.*	Steve Cram (BRITAIN)	1985
1,500 "	3 m. 29.45 s.*	Said Aouita (MOROCCO)	1985
1,000 "	2 m. 12.18 s.*	Sebastian Coe (G. B.)	1981
800 "	1 m. 41.73 s.*†	Sebastian Coe (G.B.)	1981
400 "	43.86 s.*†	Lee Evens (U.S.)	1968
200 "	19.72 s.*	Pietro Mannea (ITALY)	1979
100 "	9.83 s.*†	Ben Johnson (CANADA)	1987
Hurdling			
110 metres	12.93 s.	Renaldo Nehemiah (U.S.)	1981
400 "	47.02 s.*†	Edwin Moses (U.S.)	1983
60 yds	7.36 s. S.	Hightower (Columbia)	1983
Hurdling			
110 metres	12.93 s.	Renaldo Nehemiah (U. S.)	1981
400 "	47.02 s.	Edwin Moses (U. S.)	1983
60 "	7.36 s.	S. Hightower	1983

* Ratified Records

† Also Olympic Records.

Walking

50 Km.	3h. 41 m. 39 s.*	Raul Gonzales (MEXICO)	1979
20 "	1h. 20 m. 58.65*	D. Colin (MEXICO)	1979
5 "	22 m. 14 s.	A. Devarinskaya (U.S.S.R.)	1982
20,000 metres	1h. 25 m. 21.4 s.*	G. Agapar (U.S.S.R.)	1968
30,000 "	2h. 17 m. 16.8 s.*	A. Egorov (U.S.S.R.)	1959
50,000	4 h. 10 m. 51.8 s.	C. Hachene (E. GERMANY)	1965

Field Events

High Jump	7ft. 10 ³ / ₄ in	Igar Paklin (U.S.S.R.)	1985
Long Jump	29 ft. 2 ¹ / ₂ *†	Bob-Beamon (U.S.A.)	1968
Hop, Step & Jump	58 ft. 11 ¹ / ₂ in *†	Willie Banks (USA)	1985
Shot Put	74 ft. 2 ¹ / ₂ in	Ulf Timmerman (E. GERMANY)	1985
Pole Vault	19 ft. 8 ³ / ₄ in	Sergei Babka (U.S.S.R.)	1986
Discus Throw	243 ft.	Jurgen Schult (E. GERMANY)	1986
Javelin Throw	343 ft. 10 in	Mac Hohn (E. GERMANY)	1984
Hammer Throw	284 ft. 4 in	Yuriy Sedykh (U.S.S.R.)	1986
Decathlon	8,847 points	Daley Thompson (BRITAIN)	1984

WOMEN**Running**

100 metres	10.76s.*†	Evelyn Asford (U.S.A.)	1984
* 200 metres	21.34s.*†	Florance Griffith Joyner (U.S.A.)	1988
400 metres	47.60s.	M. Kock (E. GERMANY)	1985
800 metres	1m. 53.28s.*	J. Chratoshvilova	1983
1,500 "	3m. 52.47s.	T. Kazankina (U.S.S.R.)	1980
1 mile	4m. 18.08 s.m.	M. Decker (U.S.)	1985
3,000 metres	8m. 22.62s.	T. Kazankina (U.S.S.R.)	1984
5,000 "	14m. 48.07s.	Zola Budd (ENGLAND)	1985
10,000 "	30m. 13.74s.	Ingrid Keristianaen (NORWAY)	1986

Hurdling

100 metres	12.36s.	G. Rabsztyen (POLAND)	1980
400 metres	53.55s.	Sabine Busch (E. GERMANY)	1985

Fields Events

High Jump	6 ft. 9 3/4 in	Stefka Kasadinova (BULGARIA)	1986
Long Jump	24 ft. 5 1/2 in	Heike Drechsler (E. GERMANY)	1986
Discus Throw	244 ft. 7 in †	Z. Silhava (CZECH)	1984
Javelin Throw	247 ft. 4 in	P. Felke (E. GERMANY)	1985
Shot Put	73 ft. 11 in	N. Liso Uskay (USSR)	1984
Pentathlon	7,161 points *	Jackie Joyner (USA)	1986

SWIMMING**World Records****MEN**

Event	Min Sec.	Holder	Year
Freestyle			
100 metres	48.74	Matthew Biondi (U.S.A.)	1986
200 "	1 : 47.44	Michael Gross (W. GERMANY)	1984
400 "	3 : 47.80	Michael Gross (W. GERMANY)	1985
800 "	7 : 50.64	Vladimir Salnikov (USSR)	1986
1,500 "	14 : 54.76	Vladimir Salnikov (USSR)	1983

* Ratified Records

† Also Olympic Records.

4 × 100 metres relay	3 : 17.08	United States	1985
4 × 200 metres relay	7 : 15.69	United States	1984
Breaststroke			
100 metres	1:29.65	Steven Lundquist (USA)	1984
200 metres	2 : 13.34	Vic Davis (CANADA)	1984
Butterfly			
100 metres	52.84	Pedro Pablo Morales	1986
200 metres	1 : 57.05	M. Gross (W. GERMANY)	1986
Backstroke			
100 metres	55.19	R. Cary (USA)	1983
200 metres	1 : 58.14	Igar Polyansky (USSR)	1985
Medley			
200 metres	2 : 01.42	Alex Baumann (CANADA)	1986
400 metres	4 : 17.41	Alex Baumann (CANADA)	1984
4 × 100 metres relay	3 : 38.28	United States	1985

WOMEN

Freestyle			
100 metres	54.79	Barbara Krause (E. Germany)	1980
200 metres	1 : 57.55	Heika Friedrich (E. Germany)	1986
400 metres	4 : 06.28	Tracy Wickham (Australia)	1978
800 metres	8 : 24.62	Tracy Wickham (Australia)	1978
1500 metres	16 : 04.49	Kim Linchan (USA)	1978
4 × 100 metres relay	3 : 42.41	E. Germany	1984
Breaststroke			
100 metres	1 : 08.29	Sylvia Gerasch (E. Germany)	1984
200 metres	2 : 28.20	Sylvia Gerasch (E. Germany)	1986
Butterfly			
100 metres	57.93	Mary Meagher (USA)	1981
200 metres	2 : 05.96	Mary Meagher (USA)	1981
Backstroke			
100 metres	1 : 00.59	Ina Kleber (E. GERMANY)	1984
200 metres	2 : 08.60	Betsy Mitchell (USA)	1986
Medley			
200 metres	2 : 13.00	Patra Schneider (E. GERMANY)	1980
400 metres	4 : 36.29	Patra Schneider (E. GERMANY)	1980
4 × 100 metres relay	4 : 05.88	E. Germany	1982

INDIAN SPORTS CRICKET

Ranji Trophy Records

HIGHEST RUNS IN AN INNINGS : *443 by B.B. Nimbalkar (Maharashtra), 1984,

BIGGEST PARTNERSHIP : 577 runs in 4th wicket between Vijay Hazare and Gul Mohammad for Baroda against Holker at Baroda, 1946-47.

HIGHEST RUN IN A TEAM'S INNINGS : 912 for 8 wickets declared by Holker against Karnataka at Indore, 1945-46.

MOST WICKETS IN AN INNINGS : 10 for 20 runs by P. Chatterjee for Bengal against Assam, 1956-57.

MISCELLANEOUS WORLD RECORDS

WATER SPEED—285.2 m.p.h. by Le Taylor (Jr.) (U.S.A.), in Hustler, June 30, 1967.

MOTOR CYCLE SPEED RECORD—224.57 m. p. h. by Bile Johnson (U. S. A) September 5, 1962.

* Not out

MOTOR CAR SPEED RECORD—608.211 m.p.h. by Criag Breedlove in his car "Spirit of America Sonie I", in Tooele Country, Utah; U.S.A. November 15, 1956.

AIR-SPEED RECORD—3,603 m.p.h. by R.M. White, June 1961.

HIGHER SPEED BY A WOMAN PILOT—708.362 m.p.h. by Jacqueline Auriol in "Mystere" jet, Paris, 1955.

TENNIS BALL—220 ft. in one second by W.T. Tilden II in 1931.

SKI-JUMPING: Distance—316 ft. by A. Samuelstuen (Norway), 1951.

RUNNING, ENDURANCE—24 hrs. by W. H. Hayward (South Africa) covering 159 miles 562 yds. in Surrey, England, November 21, 1953.

CYCLING, ENDURANCE—151 hrs. 28 mins. by Syed Nawab (India) in Tehran (Iran), 1966.

SWIMMING, FASTEST—4.55 m.p.h. by John Davith (Australia), 1957.

DIVING, DEEPEST—1,000 ft. H. Keller (Switzerland) and Peter Small (U.K.) in a diving bell off Catalina Is, in California (U.S.A) December 3, 1962.

DIVING, HIGHEST—205 ft., 9 ins. by Alex Wickham in Melbourne (Australia) 1919.

DEEPEST OCEAN DESCENT—37,802 ft. by U.S. Navy Bathyscape Trieste, in the Challenger Deep of the Marianas Trench in the Pacific Ocean with Dr. J. Piccard and Lt. Don Walsh in 4 hrs. 48 mins. 24th January, 1960.

UNDERWATER STAYING LONGEST—10 minutes 58.9 seconds by Dr. Robert Keast on March 18, 1956.

MOUNTAIN CLIMBING—29,028 ft. highest-known first ascent on Mt. Everest by Sir Edmund Hillary (New Zealand) and Tenzing Norgay (India), 29th May, 1953.

CHANNEL CROSSING—Brojen Das (Bangladesh), only man to have swam the English Channel six times including both directions, a new record time within a period of only 12 days.

ROPE SKIPPING—32,089 turns (without a break) by J.P. Hughes (Australia) in 3 hrs. 10 mins. October 26, 1953.

BOXING—Joe Louis (U.S.A.)—Only man to remain unbeaten in record 12 days (1937-49) as the heavy weight champion of the world.

TIGHTROPE WALKING, ENDURANCE—174 hrs. 15 mins. by H. Rochetaing, at Valence (France), ending on April 19, 1965.

TYPEWRITING, ENDURANCE—62 hrs. 1 min. by Miss L. Meeuwisiseu, in Adelaide (Australia), ending on September 30, 1965.

PIANO-PLAYING, ENDURANCE—17 days 15 hrs. excepting refreshment intervals by Heinz Arntz, in Berlin, ending on May, 1, 1955.

TALKING, ENDURANCE—133 hrs. by K. Sheeham (Ireland), from Nov. 28 to Dec 3, 1955, at Dartford, Kent (England).

DANCING, ENDURANCE—12 hrs. by Smt. Kamallesh Kumari, a kathak dancer of India, October 13, 1969.

WORLD CHAMPIONSHIPS

TENNIS

Wimbledon Lawn Tennis Championships, 1989.

MEN'S SINGLES—Boris Becker (West Germany)

WOMEN'S SINGLES—Steffi Graf. (West Germany)

MIXED DOUBLES—Jim Pugh (U.S.) and Jana Novatna (czh.)

MEN'S DOUBLES—John Fitzgerald (Aus) and Anders Jarryd (Sweden)

WOMEN'S DOUBLES—Jana Novatna and Helina Sukova (Czh.)

JUNIOR BOYS—Niclas Kulti (Sweden)

JUNIOR GIRLS—Andrea Strnadova (Sweden).

U. S. Open Tennis Championships, 1989

MEN'S SINGLES—Boris Becker (West Germany).

WOMEN'S SINGLES—Steffi Graf (West Germany).

Australia Open Tennis Tournament, 1989

MEN'S SINGLES—Ivan Lendl (Czechoslovakia).

WOMEN'S SINGLES—Steffi Graf (West Germany).

Italian Open Tennis Tournament, 1989.

MEN'S SINGLES—Alberto Mancini (Argentina).

WOMEN'S SINGLES—Gabriela Sabatini (Argentina).

French Open Tennis Championships, 1989

MENS' SINGLES—Michael Chang (U.S.A.).

WOMEN'S SINGLES—A. Sanchez (Spain).

Canadian Open Tennis Championships, 1989.

Men's Singles—Ivan Lendl. (Czechoslovakia).

FOOTBALL**World Cup, 1986**

Argentina

European Football Championships, 1989

A. C. Milan.

Nehru Centenary.**Football Cup, 1990**

Olimpia (Paraguay)

CRICKET**Sharjah Cup, 1989.**

Pakistan.

Jawaharlal Nehru Cup, 1989

MRF World Series

Pakistan.

TABLE TENNIS**WORLD TABLE TENNIS CHAMPIONSHIP, 1989.**

Men—Jan-Ove Woldner (Sweden).

Women—Qiao Hong (China).

Men's Doubles—Joerg Rosskof and Steffen Fetzner (West Germany).

Women's Double—Quao Hong and Deng Yaping (China).

Mixed Double—Yoo Nam Kyu and Hyun Jung (South Korea).

Men's Team Title—Sweden.

Women's Team Title—South Korea.

HOCKEY**Champions Trophy, 1989**

Australia

Junior World Cup, 1989

West Germany

Asia Cup, 1989.

Pakistan.

BADMINTON**All England Badminton Championships, 1989**

Men—Yang Yang (China)

Women—Gu Jiaming (China)

Hong Kong Open Badminton Championships, 1989

Men—We Wenkai (China)

Women—Han Aiping (China)

INDIAN SPORTS : CRICKET

Ranji Trophy, 1989

Delhi

Duleep Trophy, 1989

South Zone.

Cooch Behar Trophy, 1990

Central Zone.

Vizzy Trophy, 1989

North Zone

Irani Trophy, 1989

Delhi.

Rohington Baria Trophy, 1989

Delhi University

National Women's Cricket Championships, 1989

India Railways.

Vijay Merchant Trophy, 1989

Bihar

Wills Trophy, 1989

Delhi.

FOOTBALL

Sontosh Trophy, 1989

Bengal.

Airlines Trophy, 1989

Mohan Bagan A. C.

Federation Cup, 1989

Salgaocar Sports Club.

Rovers Cup, 1988

Mohan Bagan (Calcutta)

Durand Cup, 1989

East Bengal Club.

Subroto Mukherjee Cup, 1989

Adarah Seva Vidyalaya (Varanasi).

DCM Trophy, 1989

Estaghlal (Iran).

Bardaloi 1989 Trophy

Estaghlal (Iran)

HOCKEY

53rd. National Hokey Championships, 1989

(Rangaswami Cup)

Bombay.

Nehru Hockey Trophy, 1988

Indian Airlines

Aga Khan Cup, 1988

Border Security Force.

Obaidullah Khan Gold Cup, 1988

Punjab Police.

All-India Gold Cup Hockey Tournament, 1988

Pakistan

43th National Women's Hockey Championships, 1989

(Lady Ratan Tata Cup)

Railways

Beighton Cup, 1989

Army Services Corps.

BADMINTON**54th National Badminton Championships, 1990**

Men's Single Title—Vimal Kumar.

Women's Single Title—Madhumita Bisht.

BASKETBALL**40th National Basketball Championships, 1989**

Todd Memorial Trophy (Men)—Railway

Baslath Jha Trophy (Women)—Railways

40th Junior National Basketball Championships, 1989

Boy's Team—Maharashtra.

Girl's Team—Punjab.

TABLE TENNIS**50th National Table Tennis Championships**

Maharaja of Rathampuram Cup Men—Manmeet Singh (Delhi)

Women (Travancore Cup)—Rinku Gupta (H.P.)

Mens Doubles—Sunil Babras and Tayant Thatte (Maharashtra)

Women's Doubles—Indu Puri (Union Bank) and Nandini Kulami (Maharashtra).

CHESS**National Team Chess Championships 1989**

Union Bank of India.

26th National Chess Championships, 1989

Pravin Tkipsey (Maharashtra)

TENNIS**National Tennis Championships, 1989**

Men's Singles—Zeeshan Ali

Women's Singles—Nandini Krishnan.

VOLLEYBALL**National Women's Volleyball Championships, 1989**

Maharashtra.

National Volleyball Championships 1989

Men—Andhra Pradesh.

Women—Indian Railways.

SNOOKER & BILLIARDS.**55th Senior National Billiards Championships**

Subhas Agarwal (Railways).

55th Senior National Snooker Championships.

R. Jagtiani (West Bengal).

13th Junior National Billiard and Snooker Championships

Billiard—Alak Kumar (Punjab).

Snooker—A. Shandilia (Railways).

National Kabaddi Tournament, 1989.

Men—Punjab. ; Women—Railways.

HINDUSTAN YEAR-BOOK
AND
WHO'S WHO

PART II

STATES AND TERRITORIES

STATES

ANDHRA PRADESH

Capital	Hyderabad	Females per 1,000 males	975
Area (sq. km.)	2,76,914	Percentage of literates	29.94
Population	53,403,619	Principal languages	Telugu and Urdu
Density (per sq. km.)	194		

The Andhra once an Aryan race settled in the South of Vindhyas region came in contact with the non-Aryan Stock and gradually mixed with them. Andhra Pradesh, as part of the great Mayuryan Kingdom, established an independent state under an Andhra Chieftain Satavahana on the death of Asoka. The Satavahana dynasty produced so many rulers who extended their territory covering Maharashtra, Deccan and Kalinga.

On the ruins of the Satavahanas the Pallavas came into power retaining the state between Krishna and Godavari.

In 1323 the Tughlak Sultan ended the Kakatya dynasty which dominated Andhra since the 13th century. During the period of Muslim expansionism, under Krishna Deva Raya (1510-1530). Vijayanagar kingdom reached the pinnacle of its glory. In 1527 the Bahmani Sultanate disintegrated into 5 sultanates : (1) Imdad Shahi dynasty of Berar. (2) Nizam Shahis of Ahmednagar, (3) Adil Shahis of Bijapur, (4) The Qutb Shahis of Golconda. (5) Bared Shahis of Bidar.

The Qutb Sahis laid the foundation of Hyderabad and Emperor Aurangazeb routed the rulers and appointed Asaf Jah as the Governor of Deccan and later on made themselves as independent rulers as Nizam.

Andhra Pradesh being the first province in India founded on a linguistic basis.

BOUNDARIES—This fifth largest State in India is bounded on the north by Madhya Pradesh and Orissa, on the west by Maharashtra and Karnataka, on the south by Tamil Nadu and on the east by the Bay of Bengal.

CLIMATE—The climate of the State is generally hot and humid. The State is principally fed by the south-west monsoon.

RIVERS—The State is drained by the rivers Godavari and Krishna and their tributaries. The main tributaries of the Godavari are the Manjira, the Pranhita, the Indravat and Sabari. The main tributaries of the Krishna are Tungabhadra, Yerla, Warna and Dugdanga. The medium rivers are the Pennar, the Nagavalli, and the Vamsadhara.

AGRICULTURE—Andhra Pradesh occupied a central position in the country's economy and may be described as among the most lavishly endorsed regions in natural resources—water, agriculture and mineral. More than 74 p.c. of its population depend on agriculture. Recognised as a major food producing region contributing over 10 p.c. of the India's production of cereals, it also accounts for 20 p.c. of the oil seeds and 40 p.c. of the tobacco grown in India. The important crops are rice, jowar, maize, ragi and pulses. It almost holds a monopoly in the production of castor and virginia tobacco and contributes about 6.5 p.c., of India's sugar production. There are a few agricultural development and research centres in the State.

FORESTS—occupy 23.3 p.c. of the State's total area. Important forest products are timber, bamboo, eucalyptus, casurina, sandalwood and beedi leaves.

INDUSTRIES—The State is endowed with a rich variety of minerals. It has a virtual monopoly of 'chrysotile asbestos'. Barytes, copper ore, manganese, mica, coal and limestone are other important minerals found in the State. Major industries include leather, hides and skins, machine tools, synthetic, pharmaceuticals, heavy electrical machinery, ships, fertilizers, electronic equipment and aeronautical parts.

DISTRICTS—Adilabad, Anantapur, Chittoor, Cuddapah, East Godavari, Guntur, Hyderabad, Karimnagar, Khammam, Krishna, Kurnool, Mahabubnagar, Medak, Nal-

gonda, Nellore, Nizambabad, Prakasam, Ranga Reedy, Srikakulam, Viskhapatnam, Vizianagram, Warrangal and West Godavari.

ARUNACHAL PRADESH

Capital	Itanagar	Density (per sq. km.)	7
Area (sq. km.)	83,578	Females per 1,000 males	870
Population	628,050	Percentage of literates	20.09

BOUNDARIES—It is a wild mountainous tract along the eastern Himalayas, bounded by Bhutan on the west, Tibet and China on the north and Assam on the south.

Arunachal (the hills of the rising sun) Pradesh bordering Tibet and Burma, was the North East Frontier Agency (NEFA) in 1950. NEFA was renamed Arunachal Pradesh on 20th January 1972.

CLIMATE—The rainfall varies from 60 cm. to 374 cm. Inevitably its climate varies from that of tropical heat of the plains to refreshing cold of the midlands and to the freezing chilliness of the upper ranges which remain snow clad all the time.

RIVERS—The most important rivers are the Siang or Dihang, Ramong, Subansiri, Kime and Kurung, Dibang, Lohit and Tirap.

AGRICULTURE—The tribes follow the practice of shifting cultivation or Jhum as it is called. The forests are cleared, the trees felled and burnt and crops are raised for one to three years depending on the fertility of soil. Main crops are rice, maize, millets, wheat and mustard.

FORESTS—cover 61,000 sq. km. of the area. Timber is one of the most important products.

INDUSTRIES—Principal industries are forest-based. Medium and small industries established include saw mills, plywood and veneering mills, rice mills, fruit preservation units.

COTTAGE INDUSTRIES—11 centres have been opened for imparting training in weaving, spinning, tailoring, carpet making, carpentry, wood-carving, cane and bamboo works, pottery, soap-making, rearing of silk and endi etc. at agricultural farms. 12 irregular centres also function.

DISTRICTS—Kameng, Lohit, Saing, Subansiri and Tirap.

ASSAM

Capital	Dispur	Females per 1,000 males	900
Area (sq. km)	78,523	Percentage of Literates	28.81
Population	19,902,826	Principal Languages	Assamese & Bengali
Density (per sq. km.)	254		

Assam anciently known as Pragjyotishpur founded by King Navakasur. The origin of Kamarupa is explained differently with the mythical episodes as Kamadeva etc. In the 13th century the Ahoms first captured this valley and established their reign over the Brahmaputra valley. With the treaty of Yandabo in 1826 British took the possession of this state from the Burmese and to which Cachar was annexed in 1832 and Jaintia Hills, was made part of Assam in 1835. In 1874 a province of Assam was created under a Chief Commissioner with Capital at Shillong. In 1921 this state was created a governorship.

BOUNDARIES—This north-eastern State is almost bottled up between Bhutan and Tibet on the north, Burma on the east and Bangladesh on the west, areas of Manipur on the east and of Cooch-Bihar and Tripura on the west thrown in, except for a narrow passage bordering along and through Cooch-Bihar.

CLIMATE—The climate of Assam is marked by coolness and extreme humidity. Criss-crossed and skirted by hill ranges and forests, with the lower Himalayan range overlooking in the north, the State receives abundant rainfall which keeps the temperature moderate. Except for the Western Ghats where the average rainfall is about the same. Assam has highest rainfall in the whole of India.

RIVERS—The State is drained by the river Brahmaputra and its 120 tributaries.

AGRICULTURE—Heavy rainfall makes agriculture and plantation comparatively easy and worthwhile for the people and planters. 72 p.c. of the total population depend on agriculture which is responsible for half of the State's income. The main agricultural crops of the State are rice and maize. The main cash crops are tea, jute, cotton, rape and mustard, sugarcane, potato and tobacco.

FORESTS—occupy about 35 p.c. of the State's area (approx. 47.9 thousand sq. km). They produce probably, the largest quantity of bamboo for paper production. Assam is India's biggest cane producer. There are about 70 or more varieties of timber of which 10 or 12 varieties are now generally used. Other forest products are : firewood, lac, stone, sand drugs, elephant tusks, incense and perfumes, fibres and flosses, medicinal herbs etc.

INDUSTRIES—The main industry of Assam is tea industry. It provides employment to about four and a half lakh persons. A Tea Auction centre was set up at Gawahati in September 1970. Assam has made vast stride in jute cultivation. It leads all other States in mineral oil industry. The other important mining industries are coal, limestone, refractory clay, dolomite, corundum, natural gas and sillimanite. The other industries are : match-making, plywood manufacturing, rice and oilmilling. Next to agriculture, hand-loom industry is the most important cottage industry, and is carried on both in the plains and in the Hills. The Central Silk Board, in joint venture with the Government of Assam has taken up schemes for rapid development.

DISTRICTS—Cachar, Darrang, Dibrugarh, Goalpara, Kamrup, Karbi Anglong, Lakhimpur, North Cachar Hills, Nowgong and Sibsagar.

BIHAR

Capital	Patna	Females per 1,000 males	947
Area (sq. km.)	1,73,876	Percentage of literates	26.01
Population	69,823,154	Principal Language	Hindi
Density (per sq. km.)	402		

Bihar was known as Magadha in ancient time and Kingdom of the Maurya Emperor Asoka with Capital at Pataliputra. Under the Sultans of Delhi, Bihar was reduced to province that lay on the route between Delhi and Bengal. When Sher Shah, a Behari himself defeated Humayun and became Sultan of Delhi once again Bihar came into limelight. Patna became the Capital of Bihar. With the defeat of Mughals, Bihar passed into the power of the Nawabs of Bengal. Under the British Rule Bihar became first part of the Bengal Presidency. In 1911, Bihar was separated from the Presidency of Bengal.

BOUNDARIES—Bihar is bounded on the north by the territory of Nepal and the Darjeeling district of the West Bengal, on the east by West Bengal, on the south by Orissa and on the West by U.P. and M.P.

CLIMATE—Climatically, Bihar is a beautiful belt of transition between the wet and humid regions of deltaic Bengal and the arid dryness of the greater part of U.P. and M.P. Rainfall is heavier on the Plateaus than on the low-lying Ganga valley but the plains are the beneficiaries as well as sufferers from draughts and floods.

RIVERS—The State is watered by the river Ganga, Sarayu and Gandak.

AGRICULTURE—Bihar is essentially an agricultural State. About 82 p.c. of its population depend on agriculture. Rice, tobacco and sugarcane occupy a prominent place in agriculture economy. Other crops are oilseeds, paddy, maize, wheat, barley, rahar, jute, chilly, potato, ragi, pulses, oilseed, pea, khesari, etc.

After Uttar Pradesh the most important area of white sugar in India is Bihar. The important sugarcane districts are Champaran, Saran, Darbhanga and Muzaffarpur. Next to Andhra Pradesh, Bihar enjoys the distinction of being the second largest tobacco-producing State in India. Tobacco is grown in Monghyr, Purnea and Darbhanga districts.

FORESTS—The total forest area is 13,000 sq.m. i.e. nearly 17 p.c. of the area of the

State. The important forest products are lac, timber, bamboo, gums, resins and kendu leaves.

INDUSTRIES—The State has huge deposits of copper, apatite, kyanite, coal, mica, and china clay. It has huge deposits of iron ore. Other important minerals found are manganese, limestone, graphite, chromite, asbestos, barytes, dolomite, felspar, saltpetre, slate, lead silver etc. Iron and Steel plant, fertilizer factory, machine tool factory, oil refinery, aluminium plant, explosive factory and paper plants are some of the major industrial venture in the State. Particular mention may be made of the Steel Plant at Bokaro, Fertiliser Factory and Heavy Engineering Corporation at Jamshedpur and the oil refinery at Barauni.

DISTRICTS—Aurangabad, Begusarai, Bhagalpur, Bhojpur, Champaran East, Champaran West, Darbhanga, Dhanbad, Gaya, Giridhi, Gopalganj, Hazaribagh, Katihar, Madhubani, Monghyr, Muzaffarpur, Nalanda, Nawadah, Palamau, Patna, Purnea, Ranchi, Rohtas, Saharsa, Samastipur, Santhal Parganas, Saran, Singhbhum, Sitamarchi, Siwan and Vaishali.

GUJARAT

Capital	Gandhinagar	Females per 1,000 males	942
Area (sq. km.)	1,95,984	Percentage of literates	43.75
Population	33,960,905	Principal Language	Gujarati
Density (per sq. km.)	173		

Gujarat lost its antiquity with the myths. From ancient time, it became a part of the great Empire like the Mauryan and the Guptas. The modern state came into being by Mulraj Solanki a Chalukyan ruler in the 10th century. With the end of the 13th century Gujarat passed through Muslim rule and evolved a synthesis of Hindu Muslim cultures.

BOUNDARIES—Gujarat lies on the West coast of India, bounded by the Arabian sea on the west, Rajasthan on the north and east. Madhya Pradesh on the South-east and Maharashtra on the south.

RIVERS—Big rivers like Sabarmati, Mahi, Narmada and Tapti, small rivers like the Banas, Saraswati, Viswamitri, Damanganga, Shetrunji etc., and a number of rivulets water the plain.

CLIMATE—As the Tropic of Cancer passes through Gujarat's northern border, the State has intensely hot or cold climate. But the Arabian Sea and the Gulf of Cambay washing its western coast reduce the temperature.

AGRICULTURE—About 60 p.c. of the people of Gujarat are engaged in agriculture, the principal food crops, being rice, wheat, cane, bajra and maize. The important cash crops being rice, wheat, cane, oilseeds and pulses. Important commercial crops are cotton, tobacco and groundnut.

FORESTS—Cover 17,356 sq. km. or about 9 p.c. of the land area.

INDUSTRIES—The main industry is textiles, A petro-chemical complex, a fertiliser factory, a Fertiliser Project, alumina and aluminium project and an Oil Refinery at Koyali in the State have diversified the State's industrial structure. Salt, cement, pharmaceuticals, dyestuffs, ceramics, vegetable oil, chemicals, potteries, paints and varnishes, oilseeds crushing, handloom, dairy and cotton mills machinery spare parts are other worth mentioning. The State produces salt to the extent of about 25 p.c. of the total production in India.

DISTRICTS—Ahmedabad, Amreli, Banas Kantha, Bharuch, Bhavnagar, Dangs, Gandhinagar, Jamnagar, Junagadh, Kheda, Kachchha, Mehsana, Panch Mahals, Rajkot, Sabar Kantha, Surat, Surrendeanagar, Vadodara and Vaslad.

HARAYANA

Capital	Chandigarh	Density (per sq. km.)	291
Area (sq. km.)	44,222	Females per 1,000 males	877

Population	12,850,902	Percentage of literates	35.84
		Principal Language	Hindi

Harayana began its history back to the vedic ages. Kurukshetra of the Mahabharat is situated in Harayana. It remained as an adjunct to Delhi till 1857. When the British rule crushed the rebellion of the Nawab of Jhajjar. Bahadurgarh the Raja of Ballabhgarh and Rao Tula Ram of Rewari, of the Harayana region, the territories were handed over to the ruler of Patiala. Nabha and Jhind. Later on Haryana became as part of Punjab until the late Thoter Ram raised voice in the legislature in support for a Haryana State. And at last it was under legitimate demands and favourable circumstances. Harayana was formed as a separate state.

The 17th State came into being on November 1, 1966.

BOUNDARIES — The State is bounded on the north by Punjab and Himachal Pradesh, on the south and west by Rajasthan and on the east by Uttar Pradesh.

CLIMATE — The climate of Harayana, over most of the year, is of pronounced continental character, very hot in summer and markedly cold in winter.

AGRICULTURE — Over 80 p.c. of the people of the State are engaged in agriculture pursuits. The State is surplus in foodgrains, particularly wheat, rice, bajra, maize, rape, mustard, barley, gram and jowar. Other important crops are sugarcane, oilseeds and cotton.

INDUSTRIES — Iron ore, limestone, china clay and slate are the only principal minerals commercially exploited. The major industries are cement, sugar, paper, cotton, textiles, glassware, brassware, cycles, tractors, motor cycles, automobile tyres and tubes. It is one of the leading State in India in manufacturing machines and machinery spare parts.

DISTRICTS — Ambala, Bhiwani, Faridabad, Gurgaon, Hissar, Jhind, Karnal, Kurukshetra, Mahendragarh, Rohtak, Sonapat and Sirsa.

HIMACHAL PRADESH

Capital	Simla	Females per 1,000 males	988
Area (sq.km.)	55,673	Percentage of literates	41.94
Population	4,237,569	Principal Languages	Hindi and Pahari
Density (per sq. km.)	76		

Originally Himachal Pradesh was a centrally administered territory. In 1956 the States Reorganisation Committee recommended the merger with the Punjab, but there was a strong opposition. In 1963, Himachal Pradesh was declared as a Union Territory with a Legislative Assembly and finally on the 25th January, 1971 it was declared as a state with Simla as Capital.

Himachal Pradesh comprises 30 former Punjab Hill States and their tributaries nestling in the foothills of the Himalayas between Kashmir on the west and U.P. on the east.

Formerly a Union Territory, Himchal Pradesh became the 18th State of India on 25th January, 1971.

RIVERS — The State is drained by the rivers Chenab, Ravi, Beas, Sutlej and Yamuna.

AGRICULTURE — is the mainstay of 75 p.c. of the population. Wheat, maize, barley, rice, ragi, gram, sugarcane, potato, ginger, olive, dry fruits, nuts and fruits are the principal crops, tea in small quantities being also grown.

FORESTS — occupy about 35 p.c. of the total area of the State.

INDUSTRIES — important minerals of the State are rock salt, slate, gypsum, limestone and barytes. Among major industries are Nahan Foundry, resin and turpentine factories, fruit processing plant, tractor factory, Mohan Meakin Breweries, a fertilizer plant, a cement factory, small scale wrist watch assembling-cum-manufacturing units, Tourism and Housing.

DISTRICTS — Bilaspur, Chamba, Hamirpur, Kangra, Kinnaur, Kulu, Lahaul-Spiti, Mandi, Sirmaur, Solan and Una.

JAMMU & KASHMIR

Capital	Srinagar	Official language	Urdu
Area (sq. km.)	2,22,236*	Principal Languages	Kashmiri,
Population	5,961,600		Gojri, Urdu.
Females per 1,000 males	953		Ladaki, Balti, Punjabi.
Percentage of literates	18.30		Pardiro, Parari and Dogri.

It was known as Kashmir since ancient day. King Asoka extended his empire from Afghanistan to the Deccan and founded the City of Srinagar, Kashmir was the cultural centre during the reign of Kanishka. Since 8th century A.D. Kashmir was under the benevolent rulers like Avantivarman etc. Writers like Somananda, Utpaldeva and Abhinavagupta enlightened the Culture of the state. In the 11th century, it passed into the hands of Muslim rulers and continued till 1819 under Mughals and Afghans. From 1819 to 1846 the Sikhs ruled the state. In 1846, Jammu and Kashmir became part of Gulab Singh under a treaty of Amritsar and established British rule. With the independence of India the Maharaja Hari Singh joined in India and became the instrument of accession.

BOUNDARIES — This northernmost State of India touches the boundaries of Afghanistan, U.S.S.R., and China in the north and Pakistan in the west. Tibet lies to its east and Punjab to its south.

RIVERS — The State is traversed by three rivers : Indus, Jhelum and Chenab.

CLIMATE — The climate of the State varies from the Arctic cold in the Ladakh district to the tropical heat of the sub-montane and semimountainous tracts of Jammu.

AGRICULTURE — The main occupation of the people in the State is agriculture. The total area under cultivation is 8.67 lakhs hectares. Chief crops grown are rice, wheat, maize, tobacco, oilseeds, saffron, barely and cotton. Cultivation of a large variety of fruits and vegetables is an important and productive occupation.

Sheep and goat raising is the means of livelihood of many inhabiting the hill slopes with abundant green pasture.

FORESTS — Jammu and Kashmir is pre-eminently a land of forests. The total forest area in the State is 11,057.5 sq.m. These forests are vitally important not only as a source of revenue and turn-over of timber, firewood, minor forest products, etc. but also as source of tourist trade.

INDUSTRIES — The mineral resources of the State as yet unexplored are vast indeed. Large deposits of good-quality coal, lignite, gypsum and promising occurrences of lead, zinc, copper, bauxite, asbestos, nickel, iron ore, borax, fuller's earth, slate, kaoline, manganese, graphite, petroleum, natural gas, as well as gold, ruby and sapphire have been reported.

One of the important industries in the State is tourism. Next to agriculture, cottage and small scale industries play an important role in the economy of the State. Its silk filature industry is the biggest in the world. Some of the notable handicrafts of the State are : kani shawls shahtosh, carpets, papiermache, wood-carvings, embroidered goods and silverware, pure silks, numdas, turquoise, jewellery, etc.

SECRICULTURE — Kashmir enjoys world-wide reputation for the production of good-quality silk. There is a prolific growth of the mulberry tree which provides food for silk-worms.

DISTRICTS — Anantnag, Baramula, Doda, Jammu, Kathua, Ladakh, Poonch, Rajouri, Srinagar, Udhampur.

KARNATAKA

Capital	Bangalore	Females per 1,000 males	963
Area (sq. Km.)	1,91,773	Percentage of literates	38.41
Population	37,043,451	Principal Language	Kannada
Density (per sq. km.)			

It derived from Karunadu means a loftyland. Karnataka is associated with the mythical names like Bali and Sugreeva. During the Maurya Dynasty this state was the Southern

*Includes the territories under illegal occupation of China and Pakistan.

Capital. About 30 B.C. Satavahana came to power in Karnataka and lasted for 300 years. And with the beginning of the 6th century A.D. Chalukyan rulers came to power and they were followed by the Rastrakuta. In the 14th century Vijaynagar Empire was established with Karnataka as a part and enjoyed prosperity and glory. In 1578 Raja Wodeyar founded his dynasty and enlarged into a mighty Kingdom and this rule was overthrown by Hyder Ali of Mysore. With the defeat of Tipoo Sultan, virtually it came under the British administration. The formation of the present state represent the Kannada speaking people and Mysore became the nucleus of the new state.

BOUNDARIES — Formerly known as Mysore (The Lok Sabha voted on July 30, 1973 to rename Mysore as Karnataka) the State is bounded on the east by Andhra Pradesh, on the north by Maharashtra, on the south by Tamil Nadu and Kerala and on the west by the Arabian Sea about 200 miles.

RIVERS—The State is drained by the rivers Krishna, Cauvery and Tungabhadra.

AGRICULTURE — Karnataka ranks first in India in the production of coffee and ragi crops. The food crops are : rice, wheat, millets and pulses. Other crops produced in the State are cardamom, arecanut, coconut, groundnut, jowar, cotton, tobacco, sugarcane, cashew, pepper, oranges, grapes and oilseeds.

FORESTS — The forests constitute a little over 16 p.c. of the State's total area. Sandal tree is a State monopoly yielding the largest share of forest revenue. Bamboo is one of the most valuable forests products.

INDUSTRIES—A number of economic minerals have been located in the State, chief amongst them being gold, iron ore, manganese ore, limestone, china clay, asbestos, corundum, magnetite, felspar, quartz etc. There is active mining for chromite intended for export. Karnataka is the only State where gold mining is carried on. There are number of big industries. Machine tools, aircrafts, electronic products and tele-communication equipment, textiles particularly silk, sugar, soap, chemical and pharmaceutical goods, cement, glass, ceramics and porcelain are some of the items, produced.

DISTRICTS— Bangalore, Belgaum, Bellary, Bidar, Bijapur, Chickmagalur, Chitradurga, Coorg, Dharwar, Gulbarga, Hassan, Kolar, Mandya, Mysore, North Kanara, Raichur, Shimoga, South Kanara and Tumkur.

KERALA

Capital	Trivandrum	Females per 1,000 males	1,034
Area (sq. km.)	38,864	Percentage of literates	69.17
Population	25,403,217	Principal Language	Malayalam
Density (per sq. km.)	654		

Kerala was made up of princely states like Cochin and Travancore. Malabar was under the administration of the British. With integration of the States, in 1949 it formed a separate State of Kerala on 1st November, 1956 with some territorial adjustment.

BOUNDARIES—Nestling amidst the deep water of the Arabian Sea in the west and the tall range of the Western Ghats in the east, Kerala is a narrow but long strip of coastal territory, from Kasargode in the north to Trivandrum in the south.

RIVERS AND BACKWATERS — Forty small rivers with its tributaries and branches are found in the State. The back waters provide important communications and are economically valuable.

CLIMATE — Kerala is a land of diversified climate. Due to cooling effect of the south-west monsoon which breaks out in May and continues till August, the annual variation in temperature is comparatively small, Kerala enjoys plenty of rainfall varying from about 200 inches in the high range of the Kottayam district to 65 inches at Trivandrum. On the coastal region rainfall is heaviest in the north but gradually diminishes towards the south.

AGRI-CULTURE — The agriculture in Kerala is marked by an abundance of cash crops and a shortage of food crops, 53 p.c. of the total population earns their livelihood from agriculture. Paddy is the only important foodgrain cultivated in the State. The other chief agricultural products are topioca, coconut, arecanut, cashewnut, oilseeds, pepper, sugar-

cane, rubber, tea, coffee, cardamom, pulses, banana etc.

FORESTS—Kerala is rich in forest wealth. Forests occupy nearly 24 p.c. of the State's total area. They are noted for their resources of timber including teak, ebony, rosewood, sandalwood, black and varieties of soft wood of the pine family.

INDUSTRIES—The beachsands of Kerala contain several highly valued and strategic minerals like ilmenite, rutils, zircon and sillimanite. The extensive white clay deposits in midlands contribute to the flourishing tile and brick-making industry and the abundant resources of mica, limestone, quartz, sand, lignite and a host of other minerals mark out this region as a rich field of commercial importance. China clay or kaolin for the manufacture of porcelain is also found in certain parts of the State. Graphite deposits occur in many places. This lakes and the backwaters in the coastal areas contain limeshells used in the manufacture of cement.

Major industries are rubber, tea, chemicals, paper, bricks and tiles, oil, textiles, ceramics, fertilizer, sugar, cement, rayon, glass, soap, plywood, matches, coir, aluminium, monazite, ilmenite, rare earths, shark-liver oil, cashewnut, processing, saw milling, rice milling, printing etc. The State is also noted for its fishing industry and leads all other States in fish production.

DISTRICTS—Alleppy, Cannanore, Eranakulam, Idukki, Kottayam, Kozhikode, Malappuram, Palghat, Quilon, Trichur, Trivandrum and Wynad.

MADHYA PRADESH

Capital	Bhopal	Females per 1,000 males	941
Area (sq.km.)	4,42,841	Percentage of literates	27.82
Population	52,131,717	Principal Language	Hindi
Density (per sq. km.)	118		

Being situated in the centre of India (previously Central province). Madhya Pradesh enjoys biggest status. It was created on Nov. 1, 1956 out of the states like Madhya Bharat, Vindhya Pradesh and Bhopal, and 14 Mahakoshal districts.

BOUNDARIES—As its very name implies, the State lies right in the heart of India and is the biggest in area in India.

RIVERS—The State has the mighty river system of the Narmada, Tapti, Mahanadi, Chambal, Betwa, Sone and Wainganga.

CLIMATE—The climate is extreme in the north, breezy in the plateau and generally hot and humid in eastern and southern plains.

AGRICULTURE—More than 56 p.c. of the State's area is under cultivation. Agriculture is the mainstay of about 83 p.c. of the State's population. The main crops are jowar, wheat, rice, gram. The main cash crops are sugarcane, groundnut, linseed, rape and mustard, castor, tobacco, mugar seed and cotton.

FORESTS—cover nearly 30 p.c. of the total area of the State.

INDUSTRIES—Key minerals are coal, iron, bauxite, manganese ore, limestone, clay, dolomite, steatite, marble and yellow ochres, corundum, asbestos, diamond, shales, silica sand, graphite, mica, copper.

The major industries are steel plant, heavy electricals, textile mills, newsprint mill, potteries, cement, biscuit manufacturing, engineering tools, rayon and art silk.

DISTRICTS—Balaghat, Bastar, Betul, Bhopal, Bilaspur, Chhatarpur, Chhindwara, Damoh, Datia, Dewas, Dhar, Durg, East Nimar, Guna, Gwalior, Hoshangabad, Indore, Jabalpur, Jhabua, Mandla, Mandasaur, Morena, Narsimhapur, Panna, Raigarh, Raipur, Raisen, Rajgarh, Rajnandgaon, Rathlam, Rewa, Saugor, Satna, Schore, Seoni, Shahdol, Shajapur, Shivapur, Sidhi, Surguja, Tikamgarh, Ujjain, Vidisha and West Nimar.

MAHARASHTRA

Capital	Bombay	Females per 1,000 males	939
Area (sq. km.)	3,07,762	Percentage of literates	47.37
Population	62,693,898	Principal Language	Marathi
Density (per sq. km.)	204		

Maharashtra includes Vidarbha and Marathwada. The name of Vidarbha was associated with the myth i.e. Mahabharata. During Maurya period Maharashtra came into being. After the fall of the Mauryas, it passed through different Hindu dynasty for nearly a thousand years. With the appearance of Shivaji, Maharashtra played a new role in the history. It was Shivaji who gave Maharashtra a powerful nation and it continued till 1761 when Ahmed Shah Abdulla, routed the Maratha forces. After the defeat from the British in 1818 it became as part of the Bombay Presidency.

BOUNDARIES—The State is bounded by the Arabian Sea on the West, Gujarat on the north-west, Madhya Pradesh on the north, Andhra Pradesh on the South-east and Karnataka and Goa on the South.

RIVERS—The principal rivers in the State are the Koyna, Krishna, Bhima, Godavari, Purna, Wainganga and Tapi.

FORESTS—Covers nearly 20 per cent of the total area of the State. The important forest products are teak, gums, bamboos, fibres, resins and products like lac, honey and wax.

AGRICULTURE—The peasantry forms about 70 p.c. of the State's population. The percentage of the net area shown is as high as 60. The main food crops are paddy, wheat, jowar, maize, bajra and pulses, Oilseeds, sugarcane and cotton are the chief crops. Groundnut and linseed lead the various oilseeds grown in different districts of the State.

INDUSTRIES—Important industries in Maharashtra are cotton textiles, silk, rayon and synthetic fabrics, general and electrical engineering, electronics, chemical and pharmaceuticals, fertilizers, sugar, vegetable products, paper boards and soaps. Maharashtra is one of the major sugar-producing States in the country. There are paper mills in the State. Ginning and pressing is an important processing industry serving cotton-growing areas. Motion picture industry plays a major part in the State's economy. The State has one of the largest milk supply scheme at Arey.

The State has huge deposit of managanese ore, iron ore, coal, bauxite and limestone. The other important mineral deposits are dolomite, ilmenite, kyanite, sillmanite, clay, silica sand. Small deposits of copper, lead, zinc, tungsten, barytes, feldspar, mica, asbestos, graphite and corundum are also found.

DISTRICTS — Ahmednagar, Akola, Amravati, Aurangabad, Bhandara, Beed, Buldhana, Chandrapur, Dhule, Greater Bombay, Jalgaon, Kulaba, Kolhapur, Nagpur, Nanded, Nasik, Osmanabad, Parbhani, Pune, Ratnagiri, Sangli, Satara, Sholapur, Thana, Wardha and Yeotmal.

MANIPUR

Capital	Imphal	Females per 1,000 males	972
Area (sq.km.)	22,356	Percentage of literates	41.99
Population	1,433,691	Principal Language	Manipuri
Density (per sq.km.)	64		

Manipur is associated with the Mahabharat's hero Arjuna bearing uninterrupted history till A.D. 33. Then it was divided into seven principalities and one of them was occupied by an adventurer like Pakhangbar and established his dynasty. His dynasty ruled the state till the integration of the state in 1949.

It finally acceded to the Union on October 15, 1949, and became a part 'C' State. It became the 20th State of India on 21st January, 1972.

BOUNDARIES—The State is bounded by Assam on the north west, Nagaland on the north, Burma on the east and Mizoram on the south west.

RIVERS—The State is drained by the rivers Imphal, Iril, Toubal, Irang, Barak.

FORESTS—Sixty p.c. of the land is covered by forests, which is much above the national average. The main forest products, are timber and fuel. the other products are bamboos, grasses, incense, perfume, vegetation and cinnamon.

AGRICULTURE— is certainly the most important economic occupation of the Ma-

nipuris. The main crop is rice and 144,000 hectares are under rice cultivation. Other important crops are wheat, maize, sugarcane, potato, pulses and mustard. But it does not engage all the people all the year round.

INDUSTRIES— Handloom cottage industry is the largest in Manipur. Other cottage industries are sericulture, bamboo and cane articles.

DISTRICTS— Manipur Central, Manipur North, Manipur South, Manipur East, Manipur West and Tengnoupal.

MEGHALAYA

Capital	Shillong	Females per 1,000 males	956
Area (sq.km.)	22,489	Percentage of literates	33.22
Population	1,327,874	Principal Languages	Khasi
Density (per sq. km.)	59		Jaintia and Garo

On December 24, 1969, the Assam Reorganisation (Meghalaya) Bill was passed in two Houses of Parliament, with a view to create "an autonomous State to be, known as Meghalaya", within the State of Assam. Accordingly the State came into being on 2nd April, 1970. The State comprises United Khasi-Jaintia Hills District and the Garo Hills District. The District Councils of the Mikir and the North Cachar Autonomous Districts did not join the newly formed State. It became the 19th State of India on 20th January, 1972.

BOUNDARIES - More than 150 miles to the south and west of the new State are bounded by Bangladesh. On the other sides, Brahmaputra valley is on the north and North Cachar and Mikir Hills are on the east.

RIVERS - The important rivers of the State are Krishnai, Kalu, Bhugai, Nitai, Someswari, Kynshi, Ummawpa, Umngot and Kupli.

CLIMATE - The climate of Garo Hills is rather unhealthy with an average rainfall; and that of Khasi and Jaintia Hills is one of the best in the country with Mawasyram having the highest rainfall of over 700 inches a year.

AGRICULTURE - Potato, cassialeaf, fresh fruits, sugarcane, oilseeds, jute, cotton, tobacco and arecanut are grown in abundance.

FORESTS - Forest products are chief resources of the State.

MINERALS - include coal, sillimanite, limestone, lithomarge, white clay and corundum. Meghalaya produces 95 per cent of country's total out put of sillimanite.

DISTRICTS - East Garo Hills, West Garo Hills, East Khasi Hills, West Khasi Hills and Jaintia Hills.

NAGALAND

Capital	Kohima	Density (per sq. km.)	47
Area (Sq.km.)	16,572	Females per 1,000 males	867
Population	773,281	Percentage of literates	41.99

Nagaland comprises of the Nagahill districts. It was centrally administered area in 1957. Under constant political pressure for independent state, it was confessed the states of a State of Nagaland in January 1961 and officially integrated on 1st December, 1963.

BOUNDARIES— The State is bounded by Assam on the west and north, Manipur on the South, Arunachal Pradesh on the north east and Burma on the east.

RIVERS—The State is drained by the rivers Dhansiri, Doyang, Dikku and Jhanji.

AGRICULTURE— is the main occupation of the people of the State. Rice is the only important foodgrains grown in the State.

FORESTS - continue the main source of income in Nagaland. They also provide raw materials for forests based industries.

INDUSTRIES — An Industrial Estate at Dimapur and two Weaving-cum-Production centres at Dimapur and Mokokchung are functioning. To utilise the vast potentialities for promotion of sericulture, a State Sericulture Wing has been established in the State.

DISTRICTS— Kohima, Mokokchung, Mon. Phek, Tuenstang, Wokha and Zonheboto.

ORISSA

Capital	Bhubaneswar	Females per 1,000 males	982
Area (sq. km.)	1,55,782	Percentage of literates	34.12
Population	26,272,054	Principal Language	Oriya
Density (per sq. km.)	169		

Orissa was known as Kalinga from the days of the Maurya administration. Emperor Asoke sent force against Kalinga and the carnage which followed struck Ashoka with remorse. He then took the path of love to conquer the hearts of men. In the 2nd century B.C. Kalinga became a powerful state under the mighty ruler Kharavele. Samudragupta invaded Orissa and overcame the resistance offered by its Kings. Orissa was under the rule of Sasanka of Bengal and after his death Harsha conquered Orissa. This state with its independent Ganga dynasty had rulers like Narasimha Deva was reputed to have built the unique Sun temple of Konarak.

From the 15th century to the 18th century Orissa was ruled by successive Maralin rulers and Marathas. Then it came under the possession of the British in 1803. In 1936 it was made a separate state.

BOUNDARIES— Orissa is bounded on the south-west and north-east by Andhra Pradesh and West Bengal respectively. Bihar and Madhya Pradesh lie on its north-west and west and the waters of the Bay of Bengal wash its south-eastern shore.

CLIMATE — The cold weather lasts from November to February. The hot weather begins in March and terminates with the advent of monsoon in June, which continues till the month of October. The average rainfall is about 60 inches in the northern districts and about 50 inches in the southern districts.

RIVERS—The Mahanadi, Brahmani and Baitarani are the principal rivers. They run almost parallel to one another from north-west. There are also some smaller rivers.

AGRICULTURE— Agriculture contributes nearly 50 p.c. of the total net output in Orissa. The net cultivated area is about 69.35 lakh hectares, of which paddy accounts for about 63 p.c. Other important crops are pulses, oilseeds, jute, sugarcane and coconut.

FORESTS— occupy about 67.46 lakh hectares. The timber species of the State are : sal, piasal, saghan, rosewood, gambhar, bandhan and haldu.

INDUSTRIES—The State is a leading producer of iron ore. The other minerals found in the State are manganese ore, limestone, dolomite, chromite, bauxite, graphite, china clay, nickel.

Most of the industries are mineral-based. There are steel plant, pig-iron plant, ferro-chrome plant, ferro-manganese plants, ferro-silicon plant, aluminium smelter plant, refractory plant and cement plants. Bamboo plays a major part in the State's economy.

DISTRICTS— Balasore, Budh-Khondmals, Bolangir, Cuttack, Dhenkanal, Ganjam, Kalahandi, Keonjhar, Koraput, Mayurbhanj, Puri, Sambalpur and Sundargarh.

PUNJAB

Capital	Chandigarh	Females per 1,000 males	886
Area (sq. km.)	50,362	Percentage of literates	40.74
Population	16,669,755	Principal Language	Punjabi
Density (per sq. km.)	331		

Punjab derived from the Persian word Panj and Aab ; Panj mean five and Aab means water i.e. five rivers passed through this land. Punjab emerged into the history with the arrival of Aryans into India. In 522 B.C. Darius of Persia invaded this land. In 326 B.C. Alexander the Great overran the land of Punjab and afterwards Greek Governors of Punjab were defeated by Chandragupta Maurya. With the decline of Maurya dynasty, Punjab was ruled by Seythians, Parthians, Kushan and then indigenous rulers.

From the 10th century, Punjab had to face a series of Muslim invasion culminating with

Babar, the founder of the Mughal Empire and in 1738 Nadir Shah and after wards Ahmah Abdali crossed into India repeatedly.

During the 15th and the 16th centuries, Sikh faith of Guru Nanak made possible for a creation of Punjabi speaking State and subsequently transformed into a militant land.

BOUNDARIES—The State is bounded on the north by Jammu and Kashmir, on the west by Pakistan, on the south by Rajasthan and Haryana and on the east by Himachal Pradesh.

RIVERS—The important rivers of the State are Indus, Ravi, Beas, Sutlej and Ghaggar.

AGRICULTURE - Over 76 p.c. of population in the Punjab is engaged in agricultural pursuits. The State is surplus in foodgrains, particularly in wheat and rice. Other main foodgrains are maize, bajra, jowar, gram, barley and pulses. The important cash crops are oilseeds, sugarcane and cotton.

INDUSTRIES—The State is the home of small scale industries, Secriculture, footwear, machine tools, bi-cycle parts, machinery spare parts, scientific instrument, sewing machines and parts, plastic goods, pipes, nuts and bolts, wood and machine screws are some of the important small scale industries. Major industries include tractors, drycell batteries, polyester fibres, nylon, automobile tyres and tubes etc.

DISTRICTS—Amritsar, Bhatinda, Faridkot, Ferozepur, Gurdaspur, Hoshiarpur, Jullundur, Kapurthala, Ludhiana, Patiala, Ropar and Sangrur.

RAJASTHAN

Capital	Jaipur	Females per 1,000 males	921
Area (sq.km.)	3,42,214	Percentage of literates	24.05
Population	34,102,912	Principal Languages	Rajasthani and Hindi
Density (per sq. km.)	106		

Rajasthan took eight years time to come into its present shapes since integration of princely states. The first step was taken on 17th March, 1948, with a union of Alwar, Bharatpur, Dholpur and Karauli. The second step with 9 princely states in April 1948, and remaining 2 further steps were taken with Bikaner, Jaipur, Jaisalmer and Jodhpur. On April 25, 1949, the new union was known as the United States of Greater Rajasthan which was further extended by the accession of Sirohi State in 1950. On Nov. 1, 1956 Great Rajasthan came to known as simply Rajasthan with final accession of Ajmer and Abu.

BOUNDARIES—Surrounded by Pakistan on the west and north west, this State has Punjab, Haryana, U.P. and Madhya Pradesh to its east and north-east, and Gujarat and Maharashtra to its south-west.

CLIMATE — The State has a scanty rainfall, its most striking feature being extreme variation and unequal distribution.

RIVERS—The main rivers traversing the State are the Chambal, Mahi, Banas and their tributaries.

AGRICULTURE—Rajasthan has a total cultivated area of 25 lakh hectares. Jowar, bajra, wheat, maize, barely and gram are the principal crops, certain amounts of cotton, sesamum, groundnut, linseed, rape and mustard, sugarcane, tobacco, potatoes and rice are also grown. Forests cover 36,164 sq. km.

INDUSTRIES—The State accounts for the country's entire output of lead and zinc concentrates, emeralds and garnets. Gypsum, silver ore, asbestos and felspar and mica are mined here. It has rich deposits. Two copper mines are situated in the State.

Textiles, rugs and woollen goods, sugar, cement, glass, sodium producing plant, oxygen and acetylene producing units, pesticides, insecticides and dyes are some of the major industries.

DISTRICTS - Ajmer, Alwar, Banswara, Barmer, Bharatpur, Bhilwara, Bikaner, Bundi, Chittogarh, Churu, Dholpur, Dungarpur, Ganganagar, Jaipur, Jaisalmer, Jalore, Jhalawar, Jhunjhunu, Jodhpur, Kota, Nagaur, Pali, Sawai, Madhopur, Sikar, Sirohi, Tonk and Udaipur.

SIKKIM

Capital	Gangtok	Females per 1,000 males	836
Area (sq. km.)	7,299	Percentage of literates	33.83
Population	315,682	Languages	Bhutia,
Density (per sq. km.)	44		Nepali, Lepcha and English

Under a Buddhist King titled himself as Gyalpo gave a political shape of Sikkim in the 17th century. During the 18th and 19th centuries Bhutanese and Gorkhali poured into Sikkim and threatened to overrun the state. The Gyalpo appealed to the British Indian Government and the British came to the rescue. In 1861 Sikkim became a protectorate of the British Indian Government. In 1950, Sikkim became a protectorate of the Indian Union and its ruler Chogyal wanted an independent Kingdom with a flag and national anthem faced political turmoil in the state. During 1973 and 1975 Sikkim with its king Chogyal faced crisis in every sphere of life and which made possible to annexation in Indian Union from April, 1975.

BOUNDARIES — Sikkim is bordered on the west by Nepal, on the north by Tibet and on the east by Bhutan and Tibet. Most of Sikkim is in the Himalayas. On its boundary with Nepal lies Kanchanjunga.

RIVERS — includes the Tista flowing through deep valley and intersecting the country.

FORESTS — About one-quarter of Sikkim's 7,298 sq. km. of mountainous territory is forested and forests are considered as one of the country's greatest assets. In the lower ranges and valleys, are valuable plantations of sal, simul, tooni and bamboo. Areas of giant coniferous trees to the snowline northern Sikkim.

AGRICULTURE — Orchids and Sikkim are synonymous and their rare blooms add colour to this small Himalayan State. Forests of rhododendrons cover the entire mountain sides. Alpine flowers carpet the higher valleys and passes. The citrus industry in Sikkim is closely linked with the economy of the people. Sikkim is the world's largest supplier of cardamom and it is Sikkim's major cash crop. It grows almost like a weed on shaded mountain sides around Gangtok.

POLITICAL HISTORY — Sikkim had long been treated as an Indian State, but with a special position in view of its geographical situation. Political relation between India and Sikkim dates back to 1817. Until the transfer of power in August, 1947, it was regulated by a treaty in 1861.

On June 20, 1974 the Sikkim Assembly approved the Government of Sikkim Bill, which gave more powers of the legislature and the Council of Ministers and made the Chogyal a titular head. The chogyal gave his assent to the Bill on July 4, 1974. A 5-member Council of Ministers for Sikkim was sworn in by the Chogyal on July 23, 1974. The Lok Sabha of India gave its assent on Sept. 2, 1974 to the introduction of the Constitution (36th Amendment) Bill to provide for the association of Sikkim with the Indian Union and ending the protectorate status of the Kingdom. The Bill was passed by the Lok Sabha on 4th September 1974.

A referendum was held in Sikkim on April 14, 1975 when the people of the State overwhelmingly voted for fullfledged Statehood within India. Accordingly the Constitution of India was amended once more (38th Amendment) to accommodate Sikkim as a fullfledged State within the Union of India.

INDUSTRIES — A Fruit Preservation Factory, a Distillery, and a watch assembly unit has been set up in the State. Sikkim Mining Corporation and Geological Survey of India are exploring the deposits of gold, silver, copper and zinc. The small manufacturing units are washing soap, coke, candles, matches and leather goods. The traditional handicrafts of the State are promoted by the Government Institute of Cottage Industries.

DISTRICTS — East, West, North and South Sikkim.

TAMIL NADU

Capital

Madras

Females per 1,000 males

978

Area (sq.km.)	1,30,069	Percentage of literates	45.78
Population	48,297,456	Principal Language	Tamil
Density (per sq. km.)	371		

Tamil Nadu, being the nucleus of Dravidian culture has history of some 6000 years. Tamil Nadu formed a part of Dravida country under different dynasties like Chola, Pandyas and Chera from the 4th century B.C. to the 13th century. The rise of Muslim power in India had little impact on Tamil Nadu. But with the settlement of East India Company at Madras in 1639 open a new chapter for Tamil Nadu.

During the period of independence Madras was comprising Tamil Nadu, Andhra Pradesh and part of Kerala. On January, 1969, Madras State changed its name to Tamil Nadu with Madras as its Capital.

BOUNDARIES — Formerly known as Madras, this State is bounded by Karnataka and Andhra Pradesh on the north, the Bay of Bengal on the east, and the range of the Western Ghats on the west.

RIVERS — The State has only one big river, the Cauvery, whose waters have already been utilised fully. Other smaller rivers, such as, the Palar, Cheyyar, Ponnaiyer, Mayar, Bhavari, Amaravati, Chittar, Vaigai, Pennar, Tamraparni, etc. have all been harnessed.

AGRICULTURE — is the main occupation of the people. The total cultivated area is about 63.48 lakhs hectares. The principal commercial crops of the State are groundnuts, cotton, sugarcane, gingelly, coconut, tobacco, coffee, tea, pepper and rubber. The staple food crops are paddy, millets, ragi, pulses, bajra, jowar, small millets, onions, potatoes, sweet potatoes and tapioca. Tamil Nadu is one of the two quinine producing State in India.

FORESTS — cover an area of 20,926 sq.km. Timber, fuel, bamboos, sandalwood, tan barks, eucalyptus and rubber, are main forest products.

INDUSTRIES — Limestones, magnesite, mica, quartz, felspar salt, fireclay, lignite, iron ore, bauxite and gypsum are some of the minerals mined.

Cotton textiles and silk leather tanning, automobile and ancillaries, machinery, power-driven pumps, bicycles, electrical machinery tractors, tyres and tubes, bricks and tiles, silk and cement are major industries.

DISTRICTS — Chingalpattu, Coimbatore, Dharmapuri, Kanyakumari, Madras, Madurai, Nilgiris, North Arcot, Periyar, Pudukkotta, Ramanathapuram, Salem, South Arcot, Thanjavur, Tiruchirappalli and Tirunelveli.

TRIPURA

Capital	Agartala	Density (per sq. km.)	196
Area (sq. km.)	10,477	Females per 1,000 males	948
Population	2,060,189	Percentage of Literates	41.58

Originally a princely state with mostly tribal people merged into Indian Union on 15th October, 1949. Tripura is the second smallest province in India, was formally declared a Union Territory on Nov. 2, 1957 and elevated to the position of a state on January 21, 1972.

BOUNDARIES — The State is surrounded by Bangladesh on all sides, except a narrow neck in the north-west where it borders on Assam.

AGRICULTURE — About 60 p.c. of the area is under forest. Rice, jute, potatoes, oil seeds, sugarcane and cotton are the main crops.

INDUSTRIES — Tea is the major industry. There are 56 tea gardens in the State employing about ten thousands workers. Tea Development Corporation has been set up to look after the interest of the tea industry. A paper mill and a jute mill is being set up. Tripura Small Industries Corporation Ltd. has been acting as a catalyst in spreading small scale industry in the State. The Tripura Handloom and Handicrafts Development Corporations Ltd. is actively engaged in procurement and marketing of Handloom products throughout the State and outside.

DISTRICTS — North Tripura, South Tripura, and West Tripura.

UTTAR PRADESH

Capital	Lucknow	Females per 1,000 males	886
Area (sq. km.)	2,94,413	Percentage of Literates	27.38
Population	110,858,019	Principal Language	Hindi
Density (per sq. km.)	377		

Uttar Pradesh has colourful history since Vedic age. The two great epics like Ramayana and Mahabharat features the Royal family of Kosala and Hastinapur in Uttar Pradesh respectively. In the 6th Century B.C. U.P. was associated with Jainism and Buddhism. In the medieval time. U.P. passed under the Muslim ruler and Urdu became a perfect synthesis of Hindu Muslim culture. The British firstly combined Agra and Oudh into a province called United Province in 1935. In 1950. United Provinces changed its name to Uttar Pradesh.

BOUNDARIES — Uttar Pradesh is a frontier State along the foot-hills of the Himalayas, having common borders with Tibet and Nepal in the north and is bounded by Bihar on the east, Himachal Pradesh, Punjab and Rajasthan on the west, and Madhya Pradesh on the south.

CLIMATE — With a dry and extreme climate rainfall in the State average below 40 inches. U.P. is one of the watered States in India. The climate on the whole is cooler and drier than that of West Bengal, though in hot weather, the heat is fierce in the plains. U.P. is only just within monsoon region and rainfall is not so heavy as it is in farther east.

RIVERS — The Ganga, Yamuna, Gomti, Ghagra, Sarda and Ramganga are some of the major rivers flowing through this State.

AGRICULTURE — The State stands first in its area under wheat, maize, barley, gram, sugarcane and sesamum; second in bajra, linseed, rape and mustard, besides producing considerable amount of rice, jowar and small quantities of ragi, cotton, groundnut, tea and tobacco. It is the main optimum growing State in the country. Silk is also grown in some places.

FORESTS — cover 8.6 p.c. of the area of the State.

INDUSTRIES — Limestones and silica sand are the only mineral deposits of industrial importance now being exploited. Deposits of copper, slate, magnesite, phosphate, shale, sandstone and steatite have also been located U.P. is particularly noted, however, for producing 60 p.c. of the total sugar in India and a large amount of leather and footwear, cotton and woollen textiles, paper and chemicals, glass and glass products, distilleries and breweries among other things.

DISTRICTS — Agra, Aligarh, Allahabad, Almora, Azamgarh, Bahraich, Ballia, Banda, Bara Banki, Bareilly, Basti, Bijnor, Budaun, Bulandshahr, Chamoli, Dehra Dun, Deoria, Etah, Etawah, Faizabad, Frrukhabad, Fatehpur, Garhwal, Ghaziabad, Ghazipur, Gonda, Gorakhpur, Hamirpur, Hardoi, Jalaun, Jaunpur, Jhansi, Kanpur, Kheri, Lalipur, Lucknow, Mainpuri, Mathura, Meerut, Mirzapur, Moradabad, Muzaffarnagar, Nainital, Pilibhit, Pithoragarh, Pratapgarh, Rai Bareilly, Rampur, Saharanpur, Shahjahanpur, Sitapur, Sultanpur, Tehri Garhwal, Unnao, Uttarkasi and Varanasi.

WEST BENGAL

Capital	Calcutta	Females per 1,000 males	911
Area (sq. km.)	87,853	Percentage of literates	40.88
Population	54,485,560	Principal Language	Bengali
Density (per sq. km.)	614		

It is known as Gauda or Vanga in ancient time. In Mahabharat this State was referred on many occasions, so it had a well settled culture and civilization. From the 3rd century B.C. to the 6th century A.D. Bengal was part of the Maurya and Gupta dynasties respectively. During 800 A.D. and 11th century Bengal had its own independent Kings of dynasty like Palas, Sasmulla and Seuas. Qutabuddin the Sultan of Delhi invaded Bengal and became part of Delhi Empire. With the death of Aurangzeb, Bengal again had its independent Muslim rulers. Siraj Daula, the last independent ruler lost to the British in the battle of Plassey.

Though Bengal was under a dual control of Mir-Jaffar, Mir Kasim and the British for seven years.

Bengal was first constituted as a province with Bihar, Orissa and extended up to Agra under British rule. In 1863 Assam was added to Bengal and Agra was detached. In 1905 Lord Curzon divided Bengal into two. In 1911 the Capital was shifted to Delhi from Calcutta.

In 1947 Bengal was partitioned between India and Pakistan. India shared the Bengal called West Bengal. In 1950, Princely State of Cooch Behar was merged into West Bengal and in 1954 Chandannagore was added to it under the State Re-organization Act.

BOUNDARIES—The State is bounded on the east by Bangladesh and Assam, on the south by the Bay of Bengal, on the west by Bihar and Orissa, and on the north by Nepal and Bhutan.

CLIMATE—Moist wind from the Bay of Bengal, make the climate of the State highly humid, specially in the rainy season; but in cold weather, from November to February, the climate over the entire State is exceedingly pleasant.

RIVERS—The Bhagirathi is the only channel left to West Bengal, which received waters from the Ganga. The channel is of vital importance not only to West Bengal but also to the whole of India, as on its bank stands Calcutta, the largest port of India, the chief rivers of West Bengal are the Hooghly, Damodar, Mayurakshi, Kangsabati, Rupnarain and Teesta.

AGRICULTURE—In agriculture which gives occupation to the majority of the people, it has the largest area under jute in the Union, the second largest under tea and the third largest under rice; some amount of gram, barely, linseed, mustard and rape, sugarcane, maize, cotton, tobacco and other crops are also grown here. Of the total cropped area, 88 p.c. is utilised for growing rice. After rice, jute is the most important crop and accounts for 10 p.c. of the total cropped area of the State. In jute production, West Bengal leads all other States in India, contributing about 80 p.c. of the all-India output. The tea plantation covers an area of 170,264 acres and it lies in the districts of Jalpaiguri and Darjeeling.

FORESTS—The forests cover about 13.4 per cent of the total area and lie chiefly in the districts of Darjeeling, Cooch Behar, 24-Parganas (Sundarbans), Midnapore, Nadia, Murshidabad, Bankura, Hooghly, Burdwan, Birbhum, Malda and West Dinajpur. The principal forest products are timber, firewood and charcoal. Jaldapara Sanctuary in the State is famous.

INDUSTRIES—West Bengal leads over all other State in the field of industry. 23 p.c. of all factories registered in the Indian Union are located in West Bengal. Coal and fire-clay are the two most important minerals found in the State. Other minerals are china clay, limestone, copper, iron, silica, manganese, sandstone and moulding sand.

There are two steel plants in the State. The other major industries are jute, tea, cotton, textiles, silk, automobile, bicycle, light engineering, paper, chemicals, aluminium, sugar, timber processing, ceramic and glass, leather and footwear and fertilizer. A new industrial complex centering round the port at Haldia is expected to come up shortly.

DISTRICTS—Bankura, Birbhum, Burdwan, Calcutta, Cooch Behar, Darjeeling, Hooghly, Howrah, Jalpaiguri, Malda, Midnapur, Murshidabad, Nadia, Purulia, 24 Parganas North, 24 Parganas South and West Dinajpur.

UNION TERRITORIES

ANDAMAN & NICOBAR ISLANDS

Capital	Port Blair	Density (per sq. km.)	23
Area (sq. km.)	8,293	Females per 1,000 males	761
Population	188,254	Percentage of literates	51.27

The Andaman and Nicobar Islands were constituted into a Union Territory on November 1, 1956. The Islands are in two groups; the Andamans and the Nicobar, with Ten-Degree-Channel separating the two. They stretch over 500 miles of water in the Bay of Bengal. Geographically, they are situated between the 6th and 14th parallel of north latitude and between 92 degree and 94 degree of east longitude.

Although the Andaman Islands, large and small, number about 239, the bulk consists of three closely connected large islands, North, Middle and South Andamanas which with other two islands, Baratang and Rut-Land, almost form one landmass known as Great Andamans. In the Nicobars, there are 19 islands of which 13 are inhabited by about 12,000 aboriginal tribesmen. Most of them live on Car Nicobar, the northern-most of the archipelago. Half the total is covered by Great Nicobar which is almost uninhabited.

Port Blair, the capital of the Andaman and Nicobar Islands, is 120 miles from Cape Negrais in Burma, 780 from Calcutta and 749 from Madras.

The islands possess a number of harbours and safe anchorage, notably Port Blair in the south, Elphinstone and Bonington in the middle and Port Cornwallis in the north.

The Nicobar Islands are situated to the South of the Andamans. There is a fine landlocked harbour between the Islands of Kamotra and Nancowry known as Nancowry Harbour. Coconut is the main item of trade and major item in their diet; and they have been cultivating coconut for as long as any one can remember.

The bulk of the population in Andaman is from India; the indigenous tribes number only a few hundred. These aborigines have cultural similarities with Samans of Malaya and Betas of the Philippines. They are pigmy race and may be classified into the following four major groups—(1) Andamanese, who inhabit the coastline of Middle Andaman and North Andaman, (2) Onges of Little Andaman, (3) Jarawas of Middle and South Andamans, (4) Sentineles of North Sentinel Islands.

The inhabitants of Nicobar Islands can be classified into two main groups, viz., the Nicobarese and the Shom Pens. From the anthropological points, the Nicobarese have a marked resemblance with the Indo-Chinese race. Unlike the Andamanese, the Nicobarese are a well developed good-humoured lively race.

The climate of the islands are generally described as tropical warm but tempered by pleasant breezes from the sea.

The land is fertile and yields not only rice but also rubber, pepper, coffee, timber, coconuts, arecanuts and cashew-nuts. The bulk of the revenue is derived from the exploitation of timber and the forest wealth includes good qualities of rosewood, sissoo and teak. Industries comprise plywood, oil milling, coir and matches.

Forests cover an area of 7,468 sq. km.

A Wild Life Sanctuary has been established at Ross Islands, about one mile from Port Blair.

DISTRICTS—Andaman and Nicobar.

CHANDIGARH

Headquarters	Chandigarh	Density (per sq. km.)	3,948
Area (sq. km.)	114	Females per 1,000 males	770
Population	451,061	Percentage of literates	64.68

This Union Territory is the capital both of Punjab and Haryana. It is really a city State like Delhi.

AGRICULTURE—Rice, wheat, maize and bajra are the principal food crop.

INDUSTRIES—The major industries are wool, tops and yard, hosiery needles, electric metres, antibiotics and medicines, bicycle rims etc.

DADRA AND NAGAR HAVELI

Headquarters	Silvassa	Density (per sq. km.)	211
Area (sq. km.)	491	Females per 1,000	974
Population	103,677	Percentage of literates	26.60

Dadra and Nagar Haveli became the seventh Centrally administrated Union Territory on August 11, 1961. These two were Portuguese enclaves in India. According to the Union Territories Act, Dadra and Nagar Haveli were incorporated to Indian Union and received the President's assent. These are now under an Administrator, who is concurrently the Lt.

Governor of Goa, Daman and Diu appointed by the President and advised by the Varisht Panchayat which has right to discuss and make recommendations.

Rice and ragi are the major food crops. Main cash crops are sugarcane and oilseeds.

Hand-made paper, catechu manufacture, tanning tile and brick are the industries of this territory.

DELHI

Capital	Delhi	Females per 1,000 males	810
Area (sq. km.)	1,485	Percentage of literates	61.06
Population	6,196,414	Principal Languages	Hindi,
Density (per sq. km.)	4,178		Urdu and Punjabi

Delhi the imperial city under many a dynasty in the past centuries, with its surrounding districts was constituted as a separate administration unit for the seat of the Central Government of India in 1912. New Delhi is a city. Delhi is a district and territory.

CLIMATE—Situated 700 ft. above sea-level and the focal point of all railways, it has an arid territory and an extreme climate. Average rainfall is about 25 inches.

AGRICULTURE—Over its small area, it produces considerable amount of grains, rice, wheat, maize, bajra, jowar, barely, and some amount of sugarcane, rape, mustard and tobacco.

INDUSTRIES—The main industries are automobile, accessories, bicycle parts, safety razor blades, electric motors, cotton, hosiery, pottery, flour, leather goods and tanning, rubber goods, paints and varnishes, vegetable oil, etc. Cottage industries are jewellery, brass, and copper wares, ivory, pottery, weaving, gold and silver embroidery.

GOA, DAMAN AND DIU

Capital	Panaji	Density (per sq. km.)	284
Area (sq. km.)	3,813	Females per 1,000 males	981
Population	1,082,117	Percentage of literates	55.86

The Portuguese settlements in India were Goa, Daman and Diu. Goa lies 200 miles to the south of Bombay, Daman at the entrance of the Gulf of Cambay and about 110 miles to the north of Bombay and Diu is a small island separated from the mainland by a narrow stretch of sea. The Portuguese enclaves of Dadra and Nagar Haveli, which formed parts of Daman was taken over by the Goan Nationalists and merged with India as a Centrally administered Territory on August 11, 1961.

On December 19, 1961 Indian Armed Forces drove into Goa from the three sides; other troops entered Diu and Daman. Within forty-eight hours the Indian occupation of Goa was complete with the fall of Portuguese territory in Indian hands.

RIVERS—Goa is crisscrossed by the rivers Mandovi, Zuari, Terekhol, Chapora Baga, Betul, Talpona, Sal, Galgibaga, Bhagwan, Kalem and Damanganga.

AGRICULTURE—Is the main occupation of the people of this Territory. In view of the fact that Goa is predominantly a horticultural area, the Government has decided to encourage cultivation of fruit plants, coconut, pineapples, bananas, mangoes, jackfruits and cashew. Rice is the only important food crop.

INDUSTRIES—The mining and export of iron ore is the biggest single industry in Goa. The other mineral wealth consists of manganese, ferromanganese, bauxite and silica and sand. The important industries of the State are fertilizer plants, pesticides, sugar factory, textile mills, tyre and tubes, chemicals, industrial gases, distilleries, pharmaceuticals etc. New sophisticated industries like drugs and pharmaceuticals, fasteners, PVC footwear, diamond cutting tools, industrial valves, nylon fishing nets; welding electrodes have also been set up.

DISTRICTS—Daman, Diu and Goa.

LAKSHADEEP

Headquarters	Kavaratty	Density (per sq. km.)	1,257
Area (sq. km.)	32	Females per 1,000 males	976
Population	40,237	Percentage of literates	54.72

Formerly Laccadive, Minicoy and Amindivi group of islands are now known as Lakshadeep from November 1973. The Lok Sabha on July 30, 1973 passed a Bill renaming Laccadive, Minicoy and Amindivi islands as Lakshadeep.

With re-organization of States, the Government of India look over the administration of the Lakshadeep a small sprawling group of coral islands in the Arabian sea, lying barely 200 miles away from the coast of India. Rising from a common submerged bank not more than 1,200 fathoms deep, they seem to be a portion of that old continent supposed to have existed between India and Africa.

With effect from 1st November, 1956, these islands are recognised as a Union Territory under an Administrator.

Only 10 islands out of a total number of 20, are inhabited. Minicoy, Kalpeni, Kavaratty, Agatti and Andorth lie in the Laccadive Group and Amini, Kadamath, Kitan, Chetlath and Bitra in the Amindivi Group.

The abundance of coconut trees constitutes at once the adornment as well as the wealth of the islands which offer very little scope for paddy cultivation and the main items of agricultural development consists in increasing coconut yield. The main occupations of the inhabitants are fishing and copra industries.

Coir yarn, the main product of the islands, is exchanged for rice by the Central Government.

The inhabitants of these islands are mostly Muslims. They are known as Moplas. Originally Hindus, the Malabar and South Kanara islanders appear to have been converted into Mohammedanism some time in the 14th century. Their dialect is old Malayalam with local variations. The Minicoites are more akin to the Maldivi, inhabitants and their language Mahi is said to be allied to primitive Sinhalese.

The society shows a queer mixture of Muslim law, Marimukhatayam the matrilineal code of Naris and Aliyasanthana, another matrilineal system prevalent among Bunto and Billavas of South Kanara. Surnames and ancestral property go down in the female line.

MIZORAM

Capital	Aijawl	Density (per sq. km.)	23
Area (sq. km.)	21,087	Females per 1,000 males	936
Population	487,774	Percentage of literates	59.50

The Mizo district of Assam became a United Territory on 21st January, 1972 and came to be known as Mizoram.

BOUNDARIES—It is bounded by Assam and Manipur in the north, Burma in the east and south and Bangladesh and Tripura in the west.

CLIMATE—The Territory as a whole has a temperate climate. Rainfall varies between 190 cm. and 345 cm.

RIVERS—Important rivers of the State are the Tlawng, the Sonai, the Tuivawal, the Kolodin and the Karnaphuli.

FORESTS—Mizoram has a variety of vegetation. Jungles are deep where trees like Jarul, Cham, Boroi, etc., grow. It is rich in fauna. Among its known animals are tiger, elephant, leopard, bear, boar, deer and monkey.

AGRICULTURE—Paddy is the principal crop. Other products grown are potato, maize, cotton, groundnut, chillies, ginger, orange, pulses, sugarcane, tobacco and turmeric.

INDUSTRY—Carpentry, blacksmithy and bamboo furniture and basket making are some of the common crafts.

PONDICHERRY

Capital	Pondicherry	Females per 1,000 males	985
Area (sq. km.)	480	Percentage of literates	54.23
Population	604,136	Principal Languages	French
Density (per sq. km.)	1,228		and Tamil

Following an agreement with the Government of France, the Government of India took over on November 1, 1954, the administration of the territories formerly known as the French Establishments in India. This treaty was ratified finally by the French Government.

Pondicherry consists of (1) on the Coromandel Coast—(a) Pondicherry, together with adjoining territory, divided into 8 communes. (b) Karikal and dependent districts, divided into 6 communes; (2) on the Andhra Coast—Yanam with adjoining territory forming one single commune; (3) on the Kerala Coast—the territory of Mahe consisting of the town of Mahe on the left bank of the river of the same name and the dependent territory of Naluthara on the right bank, containing four villages.

AGRICULTURE—Rice is the main food crop.

INDUSTRY—Textile, sugar, cycle parts, electrical goods, wooden articles, camphor, leather goods, etc.

DISTRICTS—Karaikal, Mahe, Pondicherry and Yanam.

WHO'S WHO

ABDULLAH, FAROOQ Dr.—b. Oct. 21, 1937; Minister of Jammu & Kashmir, 1982-84; President, J & K. National Conference, J & K Cricket Association, State-Centre Labour Union; Chairman, J & K Muslim Waqf Trust; Sher-i-Kashmir, National Medical Institute Trust.

ADVANI, LAL KISHINCHAND—b. Nov. 8, 1927; Member R.S.S. since March 26, 1942; became, Jt. Secy. Rajasthan State Jana Sangha 1952-57; Secy. Delhi State Jana Sangh 1958-63; Vice-Pres., 1965-67; Pres., 1970-72; Pres. Bharatiya Jana Sangh, 1973-77; elected to Rajya Sabha, Apr. 1, 1970 and re-elected from Gujrat 1976; elected General Secretary, Janata Party in 1977; was Union Minister of Information and Broadcasting, March 1977-July 1979; now Leader of the Bharatiya Janata Party in Rajya Sabha.

AKILANDAM, P.V. (Akilon)—b. 27 June, 1922; at Perungalur, s. of Vaidvalingam Pillai Amirdhammal; joined freedom movement 1940; worked in postal deptt. 1944-57; free lance, writer, 1958-

65; received award of novel Penn; 'Sahitya Akademi' award for historical novel, Vengay in Maindan, 1963; Jnanpith award for Chitt-in-apaaval 1976; Soviet Land Award for 1978; Dir Tamil Writers Co-operative Pub. Soc.

ALLA RAKHA—b. April, 1919; Tabla instrumentalist of Punjab Style; studied under Baksh; took part in Edinburgh Festival, 1965.

ALVA, Margaret—b. April, 14, 1942; elected to Rajya Sabha, 1974 & re-elected in 1980; Indian Delegation to U. N. general Assembly, 1976; Joint Secy. AICC, 1967-77; Gen. Secretary; Karnataka Pradesh Congress Committee 1973-80; now member of Rajya Sabha.

AMRITA PRITAM—b. 1, Aug. 1919, at Gujranwala (Pakistan). d. of Kartar Singh Hitkari; pub. 16 collections of poems, 24 novels, 8 collections of short stories; received Sahitya Akademi Award, 1956; Jnanpith awd. 1982.

AMTE, MURLIDHAR DEVIDAS (Baba Amte)—b. 1914; social activist of world renown; best known for his work

among leprosy patients ; amazing person, having cured 2,00, 000 patients so far ; lawyers turned social worker, gave up affluent life and moved into a simple but in Vidarbha with leprosy patients known as Anandwan in Warora town ; it is now a complex with 450 acres of land with farmland and residential accommodation for its 2,500 leprosy patients and handicapped people ; it also has an agricultural college for 500 students and a college for arts, science and commerce with 1300 students ; he also runs a tribal centre in Hemalkasa. Participated in Quit India Movement 1942 along with Mahatma Gandhi and Acharya Binoba Bhave ; received Padmashree 1971, Rashtra Bhushan, 1978. Bajaj Award 1979. Krishi Ratna. 1981, Damien-Dutton Award 1984.

ANAND, DR. MULK RAJ—b. Dec. 12, 1905 ; lecturer in literature and philosophy at London County Council ; lecturer at School of International Co-operation, Geneva ; won research scholarship and studied philosophy in London and Cambridge ; was a broadcaster at the B. B. C. ; was a film-script writer at the British Ministry of Information ; author, novelist, critic ; famous for his novel, 'Coolie', 'Untouchable' and 'Two Leaves and a Bud' ; Editor of Marg ; Member, National Book Trust of India, Sahitya Akademi ; awarded Padma Bhushan, 1967 ; Chairman, Lalit Kala Akademi, 1966-69.

ANSARI, Z. R.—b. March 9, 1925 ; Member U. P. Bidhan Sabha, 1962-68 ; elected to 5th Lok Sabha, 1971 ; Union Deputy Minister 1973-77 ; again elected Lok Sabha, 1980 ; Min. of State for Commerce ; Min. of State for Irrigation, 1980-83 ; Minister of State for Shipping & Transport since 1983.

ARIF, M.U.—Deputy Whip of Congress Party in Rajya Sabha, 1977 ; elected to Rajya Sabha, 1970, 1976, 1982 ; Dy. Minister for Agriculture and Civil Supplies, 1982 ; Dy. Minister for Works and Housing, 1980-82 ; renowned Urdu Writer, received Rajasthan Sahitya Akademy Award, 1976 ; now Governor of Uttar Pradesh.

ASAF ALI, ARUNA —b. 1910 ; former Mayor of Delhi ; was a prominent leader of the All-India Peace Council Afro-Asian Solidarity Movement and the National Federation of Indian Women ; was dedicated freedom fighter ; received International Lenin Peace Prize, 1964.

ASHOK KUMAR—b. 13, Oct. 1911 ; at Bhagalpur ; s. of Kunjalal ; joined Bombay Talkies as Asstt. Cameraman and Lab.-in-Charge ; appeared as hero for first time in Jeevan Naiya ; acted in countless films ; received Sangeet Natak Akademi Award 1959 ; Bharat Award 1968.

AZAD GHULAM NABI—b. May 10, 1949 ; Gen. Secy., All India Youth Congress (I) since 1978 ; M. P. from Washim 1980 ; President J & K. Youth Congress Committee ; Union Deputy Minister for Law, Justice and Company Affairs 1982-84 ; Union Minister for State for Parliamentary Affairs since 1985 ; Union Deputy Minister for Information and Broadcasting, 1984.

BAHUGUNA, HEMWATINANDAN —b. April 25, 1919 ; MLA from U.P. 1952-1967 ; Gen. Secy. U. P. C. C. , 1963-69, A.I.C.C., 1969-1971 ; became Chief Minister of U. P. Nov. 1973 ; resigned from Congress and joined Congress for democracy Feb 2, 1977 ; was Union Minister for Petroleum, Chemicals and Fertilizers, March 1977- July 1979.

BAJAJ, RAMAKRISHNA JAMNALAL—Chmn. and Mg. Dir. Bajaj International Pvt. Ltd., Bombay ; b. 22 Sept. 1923, at Wardha (Maharashtra) s. of Jamnalal and Jankidevi. Left studies to take part in freedom movement ; imprisoned thrice between 1940 and 45 ; President, Ind. Merchants Chamber 1979-80, National Committee of Int. Chamber of Commerce, 1978-79 ; Mem. Committee of FICCI ; Senate of Bombay.

Bajpal, Rajendra Kumari —b. Feb. 8, 1925 ; Member Lok Sabha, Congress (I), AICC and U.P. Legislature Assembly, 1962-77 ; Education Minister U.P. 1970 ; Cabinet Minister for Health 1971 ; Food & Civil Supplies 1973-75 ; Power & Labour 1976-77.

BALASARASWATI T.—b. 13 May

1918 ; foremost exponent of Bharatanatyam Style of dance ; Choreographer of dancedrama Sarabendra Bhupala Kuravanti ; Dir. School of Dance, Madras, Music Academy ; received Sangeet Natak Academy Award for Bharatanatyam, 1955.

BANERJEE, A. N.—b. 19 Dec. 1917 ; B. Sc. LL.B, IAS ; was Governor of Himachal Pradesh 1981-83 ; advisor to Governor of Maharashtra 1980 ; Gujarat during President's Rule, 1976 ; took up legal practice in Supreme Court and Delhi High Court, 1977 ; Dy. Chairman, Hindustan Steel 1967-69 ; Gen. Manager, Rourkella Steel Plant, 1964-67 ; Governor of Karnataka since, 1983.

BANSI LAL—b. 10 October, 1927 at Golarh (Haryana) ; took part in Praja Mandal movement in Loharu State ; Mem. Rajya Sabha 1960 and 1976-77 ; Chief Min. Haryana, 1968-75 ; Union Minister of Defence 1975-77 ; Union Minister of Railways, 1985.

BASU, JYOTI—b. July 8, 1914 ; Bar-at-law, Calcutta High Court ; Member, Communist Party of India since 1940 ; Member of the Polit-bureau of CPI (Marxist) ; Member of the West Bengal Assembly, 1964-71 ; was Leader of the Opposition, West Bengal Assembly ; Dy. Chief Minister and Minister of Finance and Transport in the U.F. Govt. in West Bengal from March 2—Nov. 21, 1967 ; Dy. Chief and Home Minister 1970 ; now Chief Minister of West Bengal since June 1977.

BENEGAL, SHYAM—b. 14 Dec., 1934 ; s. of Shridhar Bhavani Shankar and Saraswati, Edn. M.A., 1957, Osmania ; was in National Adv. Service 1958-59 ; wrote script for water (national awd. winner) 1969 ; Certificate of merit for short film (France) 1965 ; written and directed 3 music films, concepts in Ind. music for Int. TV. network ; Wrote and directed—'Ankur'—won 45 awards ; 'Nishant' received national awd. and gold plaque at Chicago Film Festival ; 'Manthan', 'Bhumika', etc. (National awd. winners)

BHARAT RAM—Chmn. and Mg. Dir. Delhi Cloth and Gen. Mills. Co. Ltd. since 1958 ; b. 5 Oct. 1914 at Delhi ; s. of Sir Shri

Ram ; Edn. St. Stephens College, Delhi, 1931-35 ; Joined Delhi Cloth Mills 1935 ; Jt. Mg. Dir, Chmn. of many industries ; Pres. Int. Chamber of Commerce, mem. National Comm. on Labour awd. LL.D. (honoris Causa) by Aligarh Univ. 1964.

BIRENDRA SINGH, RAO—Min. for Agriculture, GOI since 80 ; b. 20 Feb. 1921 at Rewari (Haryana) s. of Balbir Singh and Nihal Kaur ; Ed. B. A. 1942, Delhi ; served in Army as Commissioned Officer, 1942-47 ; selected for Indian Police Service, 1950 ; mem. Punjab Legislative Council 1954-56 ; Min. in Punjab Govt. 1956-61, resigned for political difference ; mem. Haryana Assembly 1967-71 ; elected first speaker of Assembly, 1967, Chief Minister of SVD Govt. Mar-Nov. 1967 ; founded Vishal Haryana Party ; leader opposition Party ; 1968-71. mem. Lok Sabha 1971-77.

BIRJU MAHARAJ—Dir. of Ballet Unit. Kathak Kendra, New Delhi ; —b. 4 Feb. 1938 ; music and ballet composer and Choreographer, singer of thumri and dadra ; received Sangeet Natak Akademi awd.

BIRLA, BASANT KUMAR—b. 16 Feb. 1921, at Calcutta ; s. of G.D. Birla and Mahadevi. Edn. upto Intermediate ; Chmn. Century Spinning & Manufacturing Co. Ltd., Jay Shree Tea & Cotton Mills Ltd ; Bharat Commerce and Industries ; Governor, Birla Commerce and Industries ; Governor, Birla Instt. of Technology and Science ; Trustee Birla Ed. Trust, Birla Academy of Art & Culture.

BIRLA BRIJ MOHAN—Chmn., Hindustan Motors Ltd., Calcutta ; b. 1904 ; Mg. Dir. Birla Brothers Pvt. Ltd. Pres. Ind. Chamber of Commerce, 1936, 1944 FICCI, 1954 ; founder and pres. Ind. Sugar Mills Assn., Ind. Paper Mills Assn., former member, Fiscal Comm, GOI ; former Dir. Central Board of RBI.

BIRLA, GANGA PRASAD—Chairman, Orient Paper & Industries Ltd., Calcutta ; b.—2 Aug. 1922, at Calcutta ; s. of B. M. Birla & Rukmani, Ed. B. Sc., Calcutta ; Chmn. Nigeria Engg. Works Ltd., Pan African Paper Mills Ltd., Kenya ; Vice-Chmn. Hindustan Motors Ltd., Pres. Indian Paper Mills Assn. 1947-48, 1954-55, 1955-56.

BIRLA, K. K.—b. 1918; Industrialist, Chairman, The Birla Cotton and Spinning & Weaving Mills Ltd.; Ratnakar Shipping Co., Jiyajeerao Cotton Mills, Proprietor, The Hindustan Times Ltd. New Delhi.

BiRLA, LAKHMINIWAS—Mg. Dir, Birla Brothers Pvt. Ltd., Calcutta; b. 11 July, 1909 at Pilani (Rajasthan); s. of G.D. Birla and Durga Devi. Pres. FICCI, 1967-68; Published books in Hindi and English on Poetry, folktales, short stories and novels; received gold medals from Russia.

BURNEY, SAYED MUZAFFAR HUSSAIN, IAS, (Rtd.), Governor, Manipur. b. 14 Aug. 1923, at Bulandshahr, s. of Ejaz Hussain and Imtiaz Begum; Ed. M. A. joined I.A.S., 1948; held important posts under Orissa Govt. and Central Govt.: Min. of I and B. 1975-77; Chmn. Delhi Wakf Board, 1973-76. Represented India in the U.N. Gen. Assembly on Raw Materials. April-May 1974, UNESCO in Oct-Nov., 1976.

CARIAPPA, GENERAL K.M.—b. Jan. 28, 1900 in Coorg; one of the first batch of Indian Officers to enter Staff College Quetta, 1933; admitted as one of the first two Indian students to the Imperial Defence College, London 1946; was Chief of the General Staff for some time; became G.O.C.-in-C. Eastern Command, Dec. 1947; first Indian Commander-in-Chief, Indian Army, 1943-53; Indian High Commissioner to Australia and New Zealand, 1953-56.

CHANDRA SHEKHAR—b. July, 1927; President Janata Party since its inception in 1977; elected to Lok Sabha, 1980; previously he was associated with Praja Socialist Party & Congress; Secy., Congress Parliamentary Board, member, Rajya Sabha, 1962-77, Lok Sabha, 1977-79 & 1980; held under MISA, 1975 and released in 1977; successfully completed the padayatra from Kanyakumari to Kashmir to establish rapport with the masses and to understand their pressing problems.

CHANDY, K.M.—b. 6 Aug. 1921; Governor of Madhya Pradesh, 1984; was Governor of Gujarat, 1983; Pondicherry 1982-83; elected to Kerala State Assmblly

after Independence, re-elected 1952, 1954; member AICC since 1963.

CHARAT RAM—Mg. Dir. Delhi Cloth and Gen. Mills Co., Ltd., b—Jan. 1918 at Delhi; s. of Sir Shri Ram; Edn. B. A. Delhi; has held management responsibility for the Chemical Divn. of D.C.M. since 1942 and Sugar Divn. of 1951-63, Chmn., Jay Engg. Works Ltd., Mem. Governing body of Administrative Staff College of India. Hyderabad.

CHATTERJEE, Dr. Asima—Khaira Prof. of Chemistry, Calcutta University, since 1962; b—23 Sept. 1917, at Calcutta; d. of Indranarayan Mukherjee and Kamala Devi; Ed. D. Sc., Fellow: National Science Academy; Pres. Indian Sc. Congress Assn. 1975; received Shanti Swarup Bhatnagar Memorial Awd. in Chemistry, 1961.

CHATTOPADHYAY, Kamaladevi—b. 3 April, 1903, at Mangalore (Karnataka), d. of Dhareshwar Ananthaya and Girijabai. Ed. Bedford College, London School of Economics; took part in freedom movement; jailed many times; mem. Congress Working Committee; Chmn. Sangeet Natak Akademi, National School of Drama, Council for Performing Art, Children Book Trust, Dolls Museum; Awards Watumull and Magsaysay, 1966; Deseekottama; Unesco Awd., 1977; Fellow, Academy of Dance, Drama and Music.

CHAUDHURY, A. B. A. GHANI KHAN—b. Nov. 1, 1927; member West Bengal Legislative Assembly, 1952, 57, 69, 71 and 77; Minister for Irrigation in West Bengal 1971-72; Member, Indian Delegation to U. N. for admission of Bangladesh to U.N.O. in 1972; Union Minister for Energy and Irrigation, 1980; Member, Lok Sabha, 1980, 1985; Union Minister for Railways, 1983-84; Minister for Implementation of Plans since 1985.

CHAUDHURY, TRIDIB MUKAR—b. Dec. 11, 1911; Congress Member up to 1940; Member, Congress Socialist Party up to 1947; founder-member and General Secretary, Revolutionary Socialist Party; joined in Goa liberation movement and jailed by the Portuguese in Goa. July 1955-Feb 1957; Leader of the R.S.P. in Lok

Sabha since 1952.

CHAVAN, SHANKARRAO BHAU-
RAO—b. July 14, 1920; entered politics in 1945; elected to Bombay Legislative Council, 1956; Deputy Min. for Irrigation & Power, Maharashtra Govt. 1960-64 and again 1967-68; Legislative Affairs and State Transport 1972-75; Chief Minister of Maharashtra, 1975; Union Minister for Planning and Deputy Chairman, Planning Commission, 1981-84; Union Defence Minister since August, 1984.

DALMIA, MRIDU HARI—Executive Dir. Orissa Cement Ltd. since 1970; b.—8 July 1941, at Dalmianagar; s. of Jai Dayal and Krishna Devi; Ed; B. Ch. Engg. joined business 1961; mem. Cement Research Instt. of India; Ind. Refractory Maker Assn.

DALMIA, VISHNU HARI—b. May, 1924, at Chirawa (Rajasthan), s. of Jaidayal and Krishna Devi. Chmn. Dalmia Dairy Ind., Dir. Dalmia Cement (Bharat) Ltd., Dalton Property Co. Ltd., Manchester, Vice-President, Cement Mfrs. Assn. 1968-69, 1969-70, Ind. National Committee of Int. Chambers of Commerce 1976-77, past Vice-Pres. World Federation of U.N. Association, mem., Committee of F.I.C.C.I.

DANGE, S.A.—b. Oct. 10, 1899, Chairman. Central Executive and Member Secretariat of Communist Party of India; Vice-President, World Federation of Trade Unions; founder member communist movement in India; imprisoned several times for his activity in conducting strikes; Member, Lok Sabha, 1957-62 and 1967-70 was awarded Lenin Prize by USSR 1974.

DAS, Dr. NABAGOPAL, I.C.S. (Retd.)—Dir. United Commercial Bank, Calcutta, since 1979; b. Feb., 1910, at Dacca; s. of Durgamohan and Rajabala. Edn. B. A. Calcutta, Ph. D. London. Entered I.C.S. in London; served in many important posts both in Bengal and Govt. of India; Employment Advisor, Bengal 1938-39; Sec., Post-war Reconstruction, 1945-46; Dir. Gen. of Resettlement and Employment; Resigned from I.C.S. after 26 years of service; Econ. Advisor and Vice-President Hindustan Motors Ltd., Calcutta; Life Fellow, Royal Economic Society.

DATTA, BATA KRISTA—Chmn. Tata Finlay Ltd; b.—March, 1910 at Comilla (Bangladesh); s. of Narendra Ch. and Prafulla Nalini, B. Com. Calcutta; Served in New Standard Bank, 1930-45, in Comilla Banking Corporation 1945-50, in United Bank of India Ltd., 1950-69, Chmn. and Mg. Dir. 1969-73; Dir. Gwalior Rayon Corpn.; Chmn. West Bengal Industrial Dev. Corpn. Ltd., 1972, Durgapur Chem. Ltd. 1966-67; former Pres. Bengal National Chamber of Commerce and Industry 1967-69.

DESAL, MORARJI R.—b. Feb. 29, 1896; joined Bombay Provincial Civil Service, 1918 but resigned to join Non Co-operation Movement 1930; Minister of Revenue, Co-operation, Forests and Agriculture, Bombay, 1937-39; Convicted, 1940-41; was in detention during 'Quit India' Movement, 1942-45; Minister for Home and Revenue, Bombay, 1946-52; Chief Minister, Bombay 1952-56; Union Minister of Commerce and Industry, 1956-58; Finance Minister 1958-63; resigned under Kamraj Plan, Aug. 1963; Chairman, Administrative Reforms Commission Govt of India, 1966-67; contested twice for the post of Prime Minister of India, 1964 and 1966; Dy. Prime Minister and Union Finance Minister, March 1967-July 1969; Chairman, Congress (O) Parliamentary Party; was Chairman of the Janata Party Jan-Apr. 1977; was Prime Minister of India, March 1977-July 1979.

DEVI, ASHAPURNA—b. 1909, Bengali writer, received Rabindra Awd. 1966; Sahitya Akademi Awd.; Jnanpith Awd. for Pratham Pratisruti, 1977.

DIKSHIT, UMA SHANKAR—b. 12 Jan. 1901; Politician and freedom fighter; detained during Quit India movement, 1942-44; member, Rajya Sabha, 1961-76; Union Minister for Works, Housing and Urban Development & Home Minister 1971-75; Min. for Shipping & Transport 1975; Governor of Karnataka, 1976-77.

DILIP KUMAR—b. 11 Dec. 1922; introduced to the screen by Devika Rani in Jawar Bhata, 1944; pictures include—Milan, Babul, Deedar, Aan, Daag, Uran Khatola, Devdas, Mughale-Azam, Kohi-

noor, Yahudi etc.

FERNANDES, GEORGE—b. June 3, 1930; joined the Socialist Party 1949; Gen. Secy., S.S.P., 1969-71; Treasurer Hind Mazdoor Sabha 1958; Gen. Secy. Hind-mazdoor Panchayat, socialist TUC since 1958; Founder-Chairman, Bombay Labour Co-op. Bank, 1968; Mem. B.M.C., 1961-68; M.P. 1967-70; was Union Minister of Industry, March, 1977-July 1979.

GADGIL, VITHAL NAHRAH—b. Sept. 22, 1928; Gen. Secy. Congress Party in Parliament, 1972-74; member, Rajya Sabha, 1971-80; Union Minister for Defence Production, 1975-77; Union Minister for Communications and Minister for Information and Broadcasting, 1985.

GANDHI, RAJIV—b. August, 20, 1944 at Bombay; educated at Doon School Dehra Dun. Trinity College, Cambridge; A pilot with Indian Airlines till May, 1981; General Secretary, All India Congress Committee; Prime Minister of the Republic of India since November, 1984.

GANESAN, SIVAJI—b. 1 Oct. 1928, at Villapuram; s. of Chinniah Pillai & Rajamani Ammal; first picture Parasakte, 1952; acted in more than 175 films including Navaratri (in which he played nine characters); received best actor award at Afro Asian Film Festival.

GHANDY, Sarosh Jehangir—Gen. Mgr. Tata Engg. and Locomotive Co. Ltd., Jamshedpur, since 1977; b. 21 Dec. 1937; s. of Sir J. J. Ghandy and Lady Roshan; Edn; B. Sc. (Met); Carnegie Instt. of Technology, USA; Dir. Indian Tube Co. Ltd.; Adityapur Industrial Dev. Authority; Bihar State Industrial Development Corporation.

GHOSH, TUSHAR KANTI—b. Oct. 4, 1899, started newspaper career in 1920; founder "Jugantar" and "Northern India Patrika"; President, All-India News Paper Editors' Conference, 1946-47; President, Indian and Eastern Newspaper Society, 1948-49; represented India in the Empire Press Union Conference, London, 1946; ex-Chairman, Press Trust of India; Member Central Board of Film Censors, 1951-53; Vice-President and member, Executive Committee, International Press Institute

and Chairman, Indian Section; President, A.B.C.; Editor of "Amrita Bazar Patrika" since 1928; Managing Director, "Jugantar" and "Amrita Bazar Patrika" Editor of Amrita (a Bengali weekly), Jugantar and Northern India Patrika; awarded Padma Bhushan, 1964.

GODREJ, ADI BURJOR—Dir. Godrej Soaps Pvt. Ltd. and Godrej and Boyce Manufacturing Co. Pvt. Ltd. since 1964; b. 3 April 1942 at Bombay; s. of Burjor and Jai; Edn. B. S., M. S. (Engg. and Indust. Management) M.I.T. (U.S.A.); Chmn. Ind. Veg. Oil Export Assn.; Dir, Vegoils Ltd.

GODREJ, DR. BURJOR PIROGSHA—Mg. Dir. Godrej Soaps Ltd., Bombay, since 1973; b.—1923 June 15 at Bombay; of Pirojsha B. and Soonabai; Edn. Doctor of Engg. 1949, Tech. Univ., Berlin; Dir. Godrej and Boyce Manufacturing Co. Pvt. Ltd. since 1940, Godrej (Malaysia) Ltd., Godrej (Singapore) Pvt. Ltd.

GOENKA, KESHAV PRASAD—b. 1 Sept. 1912; s. of Sir Badridas and Manorama; Sheriff of Calcutta 1950-51; Pres. Ficci, 1964-65, Indian Chamber of Commerce, 1948-49, 1956-57; Chmn. Duncan Bros. and Co. Ltd., Anglo-India Jute Mills Co., Philips Carbon Black Ltd., Woolcombers of India Ltd., Dir. R.B.I., 1948-49.

GOENKA, RAMA PRASAD—Chmn. National Tobacco Co. of India Ltd. b.—1 March, 1930, at Calcutta, s. of Keshav Prasad and Rukmani; Edn. B. A. (Hons.), Calcutta, Adv. Management Programme Course, Harvard USA; Chmn. Murphy India Ltd., Mem. ICAR, Cttee. of FICCI, Past Pres. Indian Chamber of Commerce, Calcutta.

GOENKA, SRIRAM—Chmn. Ind. Mining Federation; b.—10 June, 1936 at Raniganj; s. of Sreenivas and Basanti Das; established Shashi Steels Pvt. Ltd., Raniganj; elected Pres. of Indian Mining Federation for four successive terms.

GUPTA, INDRAJIT—b. March, 1919, at Calcutta, s. of Satis Chandra and Priyabala; Edn. B. A. (Hons.) Delhi, B. A. (Hons.) Cambridge, Pres. of several trade

Unions ; Vice-Pres. Air India Trade Union Congress, since 1973 ; arrested and detained under Preventive Detention Act, 1950-53, 59 ; arrested in connection with Labour Strikes 1958, 1960 ; remained underground for about 4 years when C.P.I. was declared illegal during World War II and during 1948-50 ; Mem. Lok Sabha, 1960-77, again since June, 1980 Central Secretariat of C.P.I.

HEGDE, RAMKRISHNA—b. Aug. 29, 1927 ; Deputy Minister for Planning and Development, Karnataka Govt. 1957-58 ; Gen. Secy. KPCC, 1956-62 ; Minister for Development & Panchayet Raj in 1962-65 ; Minister for Finance, Information and Publicity 1965-67 and 1968-71 ; Chief Minister of Karnataka, 1983.

HIDAYATULLAH, MOHAMMED—Vice-President of India, since 31 August, 1979 ; b. —17 Dec. 1905, s. of Hafiz. M. Wilayatulla ; M. A. Cambridge, Bar-at-law, Lincoln's Inn ; Judge, Nagpur High Court 1946-54 ; Chief Justice, 1954-56 ; Chief Justice of Madhya Pradesh High Court 1956-58 ; Judge Supreme Court of India, 1958-68 ; Chief Justice, 1968-70 ; Pro-Chancellor, Delhi, 1968, awarded O.B.E., 1946 ; Bencher, Lincoln's Inn. Chancellor, Jamia Millia Islamia since, 1968.

HUSAIN, MAQBOOL FIDA—b. 1915 ; started painting cinema posters, bill boards etc. in 1936 ; designed toys etc., 1941 ; held solo exhibitions in Frankfurt, Rome, Tokyo, Prague, New York, Paris etc. since 1950 ; received National Award & Golden Bear at International Film Festival, 1967 ; Padmaashree, 1966 ; Padma Bhushan, 1973 ;

HYDARI, AKBAR—Chmn. Western India Match Co. Ltd., Bombay since 1964 ; b.—15 Sept. 1919 ; Edn., M.A. Oxford ; Chmn. Voltas Ltd., Dir. Facit Asia Ltd., Mahindra and Mahindra Ltd., Metal Box Co. of India Ltd., Mackinnon Mackenzie Co., Ltd., Tata Iron and Steel Co. Ltd., Pres. Bombay Chamber of Commerce and Industries 1963-64 ; Consul Gen. for Sweden in Bombay, since 1970.

IRANI, CUSHROW RUSOY—Mg. Dir. Statesman Ltd., Calcutta since 1968 ; b.—

29 Oct. 1930. at Bombay ; s. of Russey Jehangir and Hilla ; Edn. LL.B., Bombay ; past Chmn. ABC, PTI ; past Pres. IENS ; Dir. and Trustee, Press Foundation of Asia ; Awd. of N.Y. 1977 ; Astor Awd. from Commonwealth Press Union 1977.

JAIN, ASHOK KUMAR, b.—1934 ; Edn. B. Sc. (Hons.) Calcutta ; Chmn. and Dir. New Central Jute Mills Co. Ltd., Punjab National Bank Finance Ltd., Asoka Cement Ltd., Sahu Jain Services Ltd., Sahu Jain Ltd., Oriental Gas Co. Ltd., Bennett, Coleman and Co. Ltd., Rohtas Industries Ltd ; Pres. India Paper Mills Assn., Bihar Chamber of Commerce, Patna.

JAIN, SAHU SHRIYANS PRASAD—Chmn. Dharangadhra Chem. Works Ltd., b.—2 Nov. 1908 ; Chem. Carona Sahu Ltd., Dir. Dawn Mills Co. Ltd., Sahu Rubber Pvt. Ltd., Premier Automobiles Ltd., Gwalior Rayon Silk Mfg. (Wvg.) Co. Ltd., former Pres. FICCI, member, Rajya Sabha, 1952-58.

JAKHAR, CHAUDHURY BALRAM — b. Aug. 23, 1923 ; Speaker of Lok Sabha ; leader of the opposition in Punjab Vidhan Sabha, 1977-80 ; member, Punjab Vidhan Sabha, 1972-80 ; Deputy Minister of Co-operation, Irrigation and Power, Govt. of Punjab, 1973-77.

JATTI, B.D. -b. Sept. 10, 1912 ; was nominated to Bombay Legislative Assembly, 1948 ; elected Member, Bombay Legislative Assembly 1952 ; was Dy. Minister, Health and Labour 1952-56 ; was elected member of the Mysore Legislative Assembly, 1957, 1962 and 1967 elections ; was Chief Minister Mysore 1958-1962 ; was Finance Minister, 1962-65 and Food and Civil Supplies Minister 1965-72 ; was Governor of Orissa 1972-1974 ; Vice-President of India, 27 Aug. 1974 ; Acting President of India, Feb. 1977-Aug. 1977.

JOSHI, BHIMSEN GURARAJ - b. 14 Feb., 1922 ; studied under Sawai Gandharya ; Hindustani Vocalist, Singer of Khayal of Kirana gharana, thumri ; received Padmasree 1972, Sangeet Natak Academy awd. 1975 ; given concerts in U.K., U.S.A. and Canada, 1978.

JOSHI, DAMAYANTI —b. 5 Dec. 1932; at Bombay; d. of Ramachandra; End. studied upto B.A.; received Sangeet Natak Akademi awd. for Kathak, 1968; founder-mem. Bharat Sangeet Sabha, Vice-Chmn. Dancers' Guild.

JOSHI, KUMUDBEN MAN. ISHANKAR —b. Jan. 31, 1934; Union Deputy Minister of Health & Family Welfare since 1982; elected to Rajya Sabha 1973, 1976, 1982; Deputy Minister of Information and Broadcasting 1980-82; Member Committee of Piliations, Rajya Sabha, 1980; Governor of Andhra Pradesh since 1985.

JOSHI UMASHANKAR JETHALAL —b. July 21, 1911; Gujarati poet, critic, essayist; Former Vice-Chancellor, Gujarat University, 1966-72; member, Rajya Sabha (nominated) April 1970-76; vice Pres. Indian PEN; editor, Sangkriti, Gujarati monthly; President, Sahitya Academy 1978, Indian Institute of Mass Communication, 1978; awarded Bharatiya Jnanpith Award, 1967 and Sahitya Academy Award 1973; was Chancellor of Viswa Bharati University.

JAGMOHAN —Lt. Governor of Delhi, 1982-84; Goa, Daman. & Diu, 1981-82; Former Vice-Chairman, Delhi Development Authority; received Padmashree, 1971; Padma Bhushan, 1977; Governor of Jammu & Kashmir since 1984.

KAMPANI, MANOHAR LAL —1st Lt. Governor, Andaman and Nicobar Islands, since 1982, - b. 17 Jan. 1925 at Gujarat (Pakistan); s. of N.R. Kampani and Vidya-wanti. Ed. Defence Service Staff College. Commissioned into Indian Army, 1944, Major 1957, joined India Frontier Adm. Service 1959, and held many important assignments; Jt. Secy., Min. of Home Affairs, 1975-77, Addl. Secy. 1978-82.

KARANJIA RUSSY K - b. Sept. 15 1912; Editor and Director, Blitz Publication; Editor-in-Chief, Blitz News Magazine.

KARANTH, B.V. —b. 19 Sept. 1929. Dir. National School of Drama at Udupi; s. of B. Narayanappayya; Edn. M.A. Diploma in Dramatics; actor, Dir. Music Dir. Research on Yakshagana Hindi theatre; received

Sangeet Natak Akademi awd. for Best Dir. 1976-77; Golden Louts for film Chomana-dudi.

KARANATH, KOTA SHIVARAMA —b. 10 Oct. 1902 at Kota (Karnataka); s. of Sheshari, m. Leela; took 1922-25, edited Vasantha (m), *1925-28; wrote dramas, Encyclopedia for children, 1934-38; Fellowship of Sangeet Natak Akademi, 1974; Jnanpith award for Mukajjiya Kanasagala (novel).

KARNAD, GIRISH RAGHUNATH —b. 19 May, 1938, at Matheran (Maharashtra); s. of Raghunath and Krishnabai; Asstt. Mgr. O.U.P., Madras, 1963-69, Mgr. 1969-70; plays Yayati (61), Tughlaq (64), Hayavadana (71), Anjumallige (77); written script for film Samskar (60) and acted in it; Sangeet Natak Akademi Awd. for play-writing, 1972; received Pres's Awd. for Excellence in Direction 1971.

KARUNANIDHI, M. —b. June 3, 1924; joined Dravida Kazhagam while a student; founder-member, Dravida Munnetra Kazhagam; founder-editor "Murasoli"; popular poet and play wright, widely known as "Kalaigarnar", member Madras (Tamil Nadu) Assembly since 1957; Minister, Public Works and Transport, 1967-69; Chairman DMK; Chief Minister of Tamil Nadu, Feb. 1969 - Jan. 1975.

KHAN, ALIAKBAR —b. 14 April, 1922; s. of Allauddin Khan; Sarod player of Senior Gharana; studied dhrupad, dhamar, khayal and Sorod under his father; studied Pakwaj and tabla under Aftabbuddin, his uncle; worked at Uday Shankar's Cultural Centre; founded Ali Akbar College of Music, Calcutta, 1956; started Ali Akbar College of Music, California, 1968; given concerts in Tokyo, Montreal, McGill Univ.; Bath Festival, Edinburgh Festival, 1963; Received Sangeet Natak Academy Awd. for Hindustani instrumental music.

KHAN, BISMILLAH —b. 21 March, 1916, at Dumraon; s. of Paigambar Bux; studied Shehnai playing under Ali Bux of Benaras and Ahmed Hussain; took part in Edinburgh Festival and Commonwealth Arts Festival 1965; toured U.S.A. 1967;

Received Sangeet Natak Academy Award.

KHAN, FAYYAZ AHMED —b. 11 May, 1924 at Jaipur; s. of Ustad Bashir Khan and Makhduma Begum; musician composer, exponent of Kirana gharana; gave first concert at the age of nine.

KHAN, MUNAWAR ALI —b. 15 Aug. 1930 at Lahore; s. of Ustad Bade Ghulam Ali Khan and Begum Alla Jawain; received training from his father and uncle Ustad Barkat Ali Khan, exponent of Patiala school of Ind. vocal music.

KHATAU, CHANDRAKANT MULRAJ — Mg. Dir. Khatau Makanji Spinning and Weaving Co. Ltd., Bombay; b. 20 Jan. 1910 at Bombay; s. of Mulraj; Edn. B.Sc. Chmn. Siemens India Ltd., Indian Cotton Mills reder. itic.

KHORANA, S.L. —b. 28 Feb. 1919; Curbin Officer, Defence Forces, 1943; joined IAS, 1949; Seminar U.N. Advisor to Govt. of Afghanistan, 1959-62; Lt. Governor, Delhi, 1981-82; Governor of Tamil Nadu since 1982.

KIDWAI, Dr. AKHLAQ —Governor of Bihar since 1979. b. July, 1920 at Barabanki (U.P.); s. of Ashfaqur Rahman and Nasimunsu; Edn. B.A. (Jamia) M.S. (Illinois), Ph. D. (Cornell); Mem. Central Advisory Board of Ed. National Committee on Sc. and Tech. Board of CSIR. ICAR and State Planning Board; retd. as Chmn. of UPSC, 1979.

KIDWAI, Mohsina —b. Jan., 1932; Minister of State for Food and Civil Supplies, Govt. of U.P., 1973-74; Cabinet Minister, Harijan and Social Welfare, 1974-75; Small Scale Industries, 1975-77; Member, Lok Sabha, 1978-79; Union Minister of State for Rural Development since 1984; former Union Minister of State for Health and Family Welfare since, 1985.

KRILOSKAR, RAVINDRA LAKSHMAN —b. 14 Jan. 1917 at Kirloskarwadi (Maharashtra); s. of L.K. Kirloskar and Radhabai; Edn. B.S. (Elec.) Worcester Polytechnic Instt. USA; Mg. Dir. Kirloskar Electronic Co. Ltd., Dir. of other Cos. in the Kirloskar group.

KIRLOSKAR, SHANTANU LAXMAN

—Chmn. and Mg. Dir. Kirloskar Oil Engines Ltd., Kirloskar Brothers Ltd., Pune, b. 28 May, 1903 at Sholapur; s. of Laxman Kashinath. End. B.Sc. (Engg.) MIT USA, former Pres. FICCI, 1966, of Indian National Cttee of Int. Chamber of Commerce - Award Sir Walter Puckey Prize, by India Council.

KOTHARI DAYANAND CHANDULAL —Chmn. and Mg. Dir. Kothari (Madras) Ltd., b. 28 February, 1914 at Amrelli (Gujarat), s. of Chandulal Motilal and Rama; End. M.A. Madras, Sheriff of Madras, 1955; Vice-Chmn. Kothari Sugars and Chemicals Ltd. Pres. FICCI, 1970-71, United Planters Assn. of S. India, Madras Stock Exchange Ltd., Hindustan Chamber of Commerce, confederation of Asian Chamber of Commerce and Industry.

KULKARNI, KRISHNAJI SHAMRAO — b. 7 April, 1918 at Belgaum; 8 of Shamrao and Parvati, Edn. G.D. Art. 1940; Dir. Treveni Art Dept; Hd. of Deptt. of Painting (BHU), Executed large murals and art works for G.O.I. in India and abroad; received three national awards. international awd. in London; Vice-Chmn. Lalit Kala Akademi, 1972-75; Advisor, Children Book Trust.

LATIF, IDRIS HASSAN — Air Chief Marshall PVSM, Governor, Maharashtra since 1981; b. June, 1923, at Hyderabad; s. of Hasan; Edn. Intermediate; held several important assignments, was Air Attache in Indian embassy in Washington and Indian High Commn. in Ottawa; Promoted Air Marshal 1974; AOC-in-C, Central Air Command; AOC-in-C, maintenance Command, 1976-77; Vice-Chief of Air Staff, 1977-78; Chief of Air Staff, 1978-81.

LIMAYA, MADHU — b. May 1, 1922; Mem. Socialist party since, 1938; Chairman Socialist Party, 1953; Member, Lok Sabha, Dec. 1964-Dec. 1970 and 1973-76; Gen. Secy. Janata Party, 1977-July 1979; and of Lok Dal, Aug. 1979-July, 1982.

MAFATLAL, ARVIND NAVINCHANDRA — Chmn. Mafatlal group of Cos. Bombay; b. 27, Oct. 1923; s. of Navinchand

dra and Vijayalaxmi; Chmn. Mafatlal Industries Ltd., Polyolefins Industries Ltd., National Organic Chem. Industries Ltd.

MAFATLAL, RASESH NAVINCHANDRA — Chmn. and Mg. Dir., Standard Mills Co. Ltd. Bombay, b. 6 March, 1934, at Bombay; s. of Navinchandra and Vijayalaxmi; Edn. B.A. (Hons.); Chmn. Rexroth Maneklal Industries Ltd., Dir. National Organic Chem. Industries, Hindusthan Motors Ltd., Hoechst Dyes and Chemicals Ltd., Chmn. Ind. Cotton Mills Federation.

MAFATLAL, YOGINDRA NAVINCHANDRA — Chmn. and Mg. Dir. Indian Dyestuff Ind. Ltd. - b. 22nd Jan. 1925, at Bombay, s. of Navinchandra and Vijayalaxmi; Chmn. Commerce (1935) Ltd., Dir. Mafatlal Industry Ltd. Mafatlal Fine Spg. and Mfg. Co. Ltd., Associated Cement Cos. Ltd., Mahindra and Mahindra Ltd., Kothari (Madras) Ltd., Standard Mills Co. Ltd.

MAHINDRA, HARISH — Chmn. and Mg. Dir. Mahindra Ugine Steel Co. Ltd. since 1964; b. 19 March, 1923 at Calcutta; s. of Jagadish Chandra; Edn. from Fletcher School of Law and Diplomacy USA. Chmn. National Safety Council, Maharashtra Electronics Corporation, Dir. Mahindra and Mahindra Ltd. since 1956, Vice-Pres. ISI, past Pres, FICCI, Indo-American Chamber of Commerce.

MAHINDRA, KESHUB — Chmn. Mahindra and Mahindra Ltd. Bombay; b. 9 Oct. 1923, at Simla; s. of Kailash Chandra and Savitri; Edn. B.Sc., Pennsylvania, USA; Chmn. Otis Elevator Co. (India) Ltd., Union Carbide India Ltd., Indian Aluminium Co. Ltd., Remington Rand of India Ltd., Dir. Ballarpur Ind. Ltd., Metal Box Co. of India; Tata Chemicals Ltd., Tata Iron and Steel Co. Ltd., North Borneo Timbers, Malaysia, past Pres, Associated Chambers of Commerce and Industry.

MAKWANA, YOGENDRA — b. Oct. 23, 1933; elected to Rajya Sabha 1973, 1976 and 1982; Deputy Chief Whip, Congress (I) Party in Rajya Sabha, 1977; Secy; Congress (I) Party in Parliament since 1979; Union Minister for State for Home

Affairs, 1980-82; Minister of Communication 1982; Union Minister of State for Agriculture since 1982; Union Minister of State for Health and Family Welfare since 1985.

MANEKSHAW, GEN. S.H.F.H.J. — b. Arr. 3, 1914; educated at National, Dehra Dun and London; commissioned, 1934; was on active service in Burma and French Indo-China, 1945-54; Director of Ministry Operation 1948-52; GOC-IN-C Western Command, 1963-64, Eastern Command, 1964-69; was awarded "Padma Bhushan" 1968; Chief of the Army Staff, June 1969-Jan. 15, 1973; promoted to first Field Marshal of India on 31st Dec. 1972; President, All India Council of Sports.

MANGESHKAR, LATA — b. of Marathi stage personally Master Dinanath; began as actress in Patili Mangala Gaur, first picture as singer "Apki Sewa Mein"; produced two films Wadal and Kanchanjanga etc. President's Awd. winner.

MEHRA, O.P. — b. 19 Jan. 1919; joined IAF in 1940; Commandant Air Force Academy, 1947-50; Air-Officer, Commanding-in-Chief, maintenance command, 1963-67; Deputy Chief of Air Staff, 1969-71; Chief of Air Staff, 1973-76; received Padma Vibhushan, AVSM; was Governor of Maharashtra, 1980-82; now Governor of Maharashtra.

MERCHANT, VIJAY MADHOWJI — b. Oct. 12, 1911; represented National team in cricket, 1933; retired from first class cricket, 1951; Sheriff of Bombay, 1969-70; President National Association for the Blind, 3-R Society NASEOH, Cricket Club of India Ltd.

MASANI, MINOCHER RUSTOM — b. Nov. 20, 1905; called to the Bar from Lincoln's Inn., 1928; founded Congress Socialist Party at the Nasik Jail, 1934 and functioned as its Jt. Secretary till 1939; Mayor of Bombay, 1943-44; member of the Constituent Assembly 1947-48; Ambassador to Brazil, 1948-49; M.P. 1951-57; was associated with Tata Industries; one of the founders of the Swatantra Party and was its General Secretary from its inception; Chairman of this Party 1969; elected to Lok

Sabha, 1957, 1962 and 1967; a gifted writer; wrote the best-selling books for children, *Our India* and other books in English.

MIRDHA, RAMNIWAS — b. Aug. 24, 1924; member, Rajya Sabha, 1967; Minister, Govt. of India 1970-77; Deputy Chairman, Rajya Sabha, 1977-80; Speaker, Rajasthan Assembly, 1957-67; former Union Minister of State for Irrigation; Union Minister of State for Communication & Home, 1986.

MODI, KEDARNATH — Chmn. Modipon Ltd., Modinagar; b. 2 May 1922; s. of Multanilal; Edn. Patiala; Chmn. Modi Spinning and Weaving Mills Co. Ltd., Modi Industries Ltd., Modi Rubber Ltd.; Pres. U.P. Chamber of Commerce and Industries; Dir. U.P. State Industries Dev. Corp.; Past Pres. All India Mfrs. Orgn.

MODI, SATISH KUMAR — Vice-Chmn. and Pres. Modi Carpets Ltd., b. 19 Oct. 1946; Edn. B.Sc. (Elec. Engg.) Ranchi; Mg. Dir. Modi Spinning and Weaving Mills Co. Ltd., Chmn. Cotton Textile Export Promotion Council (N. Region); Paul Harris Fellow.

MORARJEE, SUMATIBEN — Chmn. Scindia Steam Navigation Co. Ltd., Bombay; b. 13 March, 1909; daughter-in-law of Norottom Morarjee; Pres. of Ind. National Ship Owners Assn., 1957-59, 1964-65, 1970-71; instrumental in building a reference library for research on shipping in Scindia House, Bombay, 1961; Chmn. Eastern Bunkers Ltd., Norottom Morarjee Instt. of Shipping; Ind. Coastal Conference; Vice-Chmn. Maritime Law Assn. of India; vice-pres. nathdwara Temple Board.

MUKHERJEE, SHARDA — Governor of Gujarat, since 1978; b. 24 Feb. 1919, at Bombay; d. of Pratap Sitaram Pandit and Saraswati; elected to Lok Sabha 1962, 1967; Governor of Andhra Pradesh, 1977-78.

NAMBOODRIPAD, E.M.S. — b. June 14, 1909; formed Socialist Party in Kerala, 1934; Secy., Kerala Provincial Congress, 1938-40; Congress M.L.A. Madras 1939-40; Member Central Committee C.P.I. from

1941; member, Politbureau from 1950; General Secretary 1953-56; elected M.L.A. 1957; Chief Minister, Kerala, 1957-59; gen. Secy. C.P.I. 1962-63; Chief Minister of Kerala 1967-69; was Gen. Secy. C.P.I. (M).

NARASIMHA RAO, P.V. — b. 28 June 1921, at Karimnagar Dist. (A.P.); Edn. B.Sc., LL.B., Nagpur Sahitya Ratna, took part in Vandemataram movement in Hyderabad State; Mem. Assembly 1957-77; Min. for Land and Information, 1962; Law and endowments, 1964; Health and Med, 1967; Ed. 1968, Chief Minister, 1971-73. Gen. Secy. Ind. National Congress, 1974-77; Mem. Lok Sabha, 1974-79. Union Minister of External Affairs 1980; Union Minister for Defence, 1984. Union Minister for Human Resource Development and Health, 1986.

NEHRU, ARUN KUMAR — b. May 25, 1944; member, Consultative Committee of General Affairs, Science & Technology; member, National Council of Youth Congress (I).

NEHRU BRAJ KUMAR — I.C.S. (Retd.) Governor of Gujarat since Jan. 1984; b. 4 Sept. 1909 at Allahabad (U.P.); s. of Brijlal; Edn. B.Sc. (All'd); B.Sc. (Econ.) London School of Economics, Balliol College, Oxford, Bar-at-Law, Inner Temple, joined ICS, 1934, Executive Dir. World Bank, 1949-54, 1958-62. Min. India Embassy in Washington, 1949-54; Ambassador to U.S.A. 1961-68; governor of Assam and Nagaland, 1968-73, also of Meghalaya, Manipur and Tripura, 1972-73, High Commissioner to Britain, 1973-77, Fellow, London School of Econ; Governor of Jammu & Kashmir, 1981-83.

NIHAL SINGH, SURENDRA — b. Apr. 30, 1929; Staff Reporter, feature and crime reporter etc. in *The Statesman*; Cropdt. Singapore, Pakistan, Moscow, London; Resident Editor, Delhi Edition Jan. 1974-Sept. 1975; Presently Editor-in-Chief. *The Indian Express*.

PALKHIVALA, NANI ARDESHIR — b. Jan 16, 1920; Senior Advocate Supreme Court of India; Member, First and Second

Law Commissions; Chairman, Income-tax Appellate Tribunal Bar Assn.; was Indian Ambassador to U.S.A.; Sept., 1977-July, 1979.

PANDE, B.N. - b. 23 Dec. 1906, Governor of Orissa since 1983; nominated to Rajya Sabha, 1982; Chairman, Joint Parliamentary committee on Viswa Bharati Amendment Bill, 1981-82; Published many books; received Padmashree.

PANIGRAHI, SANJUKTA — b. 24 Aug. 1944, at Berhampur (Ganjam Dis., Orissa); d. of Abhiram Mishra and Shakuntala; Edn. Senior Chambridge, exponent of Orissa dance, training under exponent of Odissi dance, training under Guru Kulu Charan Mahapatra and Bharatanatyam under Rukmini Devi; Lecturer, Utkal Sangeet Mahavidyalaya 1964-66; founded Natyokala, awd. title of Nritya Shrimani, by Prayag Sangeet Samiti.

PANDIT JASRAJ MOTARAIN — b. 28 Jan. 1930 at Hissar; s. of Pandit Motiram; gave first vocal performance, 1952; composed opera, Kan Kahani, Sunyo Kare; Surdas Sur Laya Chanda, dance, ballet etc. received Haridas Sangeet Ratna; Padmashree 1975; Chmn. Motiram Sangeet Natya Academy.

PANDIT, Mrs. VIJAYALAKSHMI — b. Aug. 18, 1900; took active part in the Congress movements of 1930 and 1932; elected to U.P. Assembly; 1936 and 1946; Minister of Local Self Government and Public Health U.P. (First Woman in India to hold ministerial rank), 1936; Leader of Indian delegations to U.N. 1946, 1947, 1948, 1952 and 1953; Indian Ambassador to U.S.S.R. 1947-49 and U.S.A. 1949-52; President U.N. General Assembly, 1953-54, High Commissioner for India in U.K. 1956-62; governor of Maharashtra, 1962-64; elected Member of Lok Sabha in 1964 and again in 1967 but resigned in 1968.

PANT, KRISHNA CHANDRA — b. 10. August, 1931 at Bhowali; Mem. Lok Sabha 1962-67 and Rajya Sabha 1978; Minister of State for Finance 1967-69, Steel and Heavy Engn. 1969-70. Home Affairs,

Deptt. of Electronics. Sc. and Tech., Atomic energy, 1973-74. Energy 1974-77; General Secretary, Indian National Congress, 1977; Chairman, Atomic Energy Commission, 1980; Union Minister of Education, 1985.

PATIL, VEERENDRA — b. 1924, Edn. B.A., LL.B., Osmania, started legal practice, 1948; joined Quit India movement and took active part to suppress Razakar menace. Elected to State Assembly in first Gen. election in Hyderabad State. Mem. Karnataka Assembly 1957-71; Dep. Min. for Industries, 1957-68; Min. for Excise and Prohibition and Rural Industries, 1961-62; for Public Works and Electricity, 1962-68, Chief Minister of Mysore, 1968-71; Union Minister for Labour and Rehabilitation, Jan, 1983; Union Minister for Chemicals and Fertilizers, Dec. 1984.

PATNAIK, BIJOYANANDA — b. Mar. 5, 1916; educated at Cuttack; an ace pilot; an industrialist; Member, Orissa Legislative Assembly, 1952-73; Chief Minister of Orissa, 1961-63 Member, Rajya Sabha, 1972-76; Union Minister for Steel and Mines, Mar. 1977-Jan. 1980.

PATNAIK, J.B. — b. Jan. 3, 1927; a journalist by profession; Union Minister for Tourism and Civil Aviation, Jan. 1980-June 1980, now Chief Minister of Orissa.

PILOT, RAJESH — b. Feb. 10, 1945; graduated as Pilot from Air Force Academy; member, Lok Sabha, 1980, 1984; Quit Air Force Commission as Squadron Leader to enter politics; received Commandation in Air Force for role played as bomber pilot in Indo-Pak war in 1971;

PODDAR, BADRI PRASAD — Chmn. Ind. Inst. of Technology, Kharagpur. b. 3, June, 1920 at Calcutta; s. of Ram Chandra and Suva Devi; Ed. B. Com.; Dir. Shaw Wallace and Co. Ltd., Calcutta Tramways Co. Ltd., English Electric Co. of India Ltd., General Electric Co. of India Ltd., Budge Budge Jute and Industries Ltd.; was Pres. FICCI, 1977-78; Chmn. Birla Technological and Industrial Museum.

PRAJNANANDA, SWAMI — Secy. Ramkrishna Vedanta Math, Calcutta, b.

1907 at Prosadpur, Hooghly; s. of N.C. Banerjee; monk of Ramkrishna Vedanta Math, Edn. Cal. Univ. in 'Sanyasa' by Swami Abhedananda, took 'Sanyasa' in 1927; Pres. Ramkrishna Vedanta Ashrama, Darjeeling, Kurseong, and Siliguri Research Pub. Sangeet-O-Sanskriti (Bengali) 1958, D. Litt. by Rabindra Bharati Univ. Fellow Sangeet Natak Academy since 1963.

RAMCHANDRAN, P.—b. July 15, 1921; active member of Indian National Congress since, 1940; Secy. Avadi Session Congress, 1955; elected to Tamil Nadu Assembly, 1957, 1962. Govt. whip from 1962-69. Joined Congress (O), 1969 and became its President, 1972; now Governor of Kerala.

RAMANNA, RAJA Dr. — b. Jan. 28, 1925; B.Sc.; jointed Tata Institute of Fundamental Research, 1949; Chairman, IIT, Bombay; Director, Bhava Atomic Research Centre, 1972-78; Director General, Defence Research and Development Organisation, Secretary, Ministry of Defence since 1978; Chairman, Atomic Energy Commission since 1984 and Scientific Advisor to Ministry of Defence; received Padmashree 1968, Padma Bhushan 1973.

RANDHWA Dr. MOHINDER SINGH — I.C.S. (Retd.) b. 2 Feb. 1909 at Zira (Ferozpur, Dist. Punjab) s. of Lher Singh and Bachint Kaur; Edn. M. Sc. (Hons.) 1930, Lahore, D.Sc. 1955, Punjab, Joined I.C.S. 1934. vice-Pres. I.C.A.R. and Addl. Secy. Min. of Food and Agriculture G.O.I. (1955-60). Chief Commissioner, Chandigarh 1966-68, vice-Chancellor, Punjab Agricultural Univ. 1968-76. Pres. AIFACS, Chairman, ICAR, Central museum Review Committee, Publications Kangra Paintings, Basole Paintings, etc.

RAO, K.V. KRISHNA —b. July 16, 1923; Governor of Nagaland, Manipur and Tripura since 1984; was chief of the Army Staff, 1981-84; Principal Hony. Army ADC to the President; Dy. Chief of the Army Staff 1978-79; GOC-in-Charge, Western Command, 1979-81; received PVSM award,

1971;

RAY, ANNADA SANKAR —b. Mar. 15, 1904; Author of Bengali novels, short stories, essays, and poems, including "Satyasatya", an epic novel in six volumes; Member Indian Civil Service 1929-51; famous literature; Member, Sahitya Akademi Executive Board, 1954-57. Indian delegate to international P.E.N. Congress, Japan, 1957; received Sahitya Akademi Award in 1963 for "Japane" (a travelogue).

RAY, SATYAJIT —b. May 2, 1921; after graduation from Presidency College, Calcutta, joined "Kalabhavan", Santiniketan; started work on "Pather Panchali" in 1952 and finished it in March 1955; won President's Gold Medal for several times; was awarded highest prize at the Cannes Film Festival, France, 1955; received Golden Lion Prize at Venice for "Aparajita" 1959; received Sangeet Natak Akademi Award as Director of the Year 1959; was awarded Padmashree 1958, Padma Bhushan 1965 and Padma Vihusan 1975; was awarded first prize for Best film director for "Charulata" at the Berlin International Film Festival, 1965 and for "Ashani Sanket" in 1973 (Golden Bear); received Magsaysay Award 1967; recipient of the Best Director Award of the National Film Awards for several times.

RAY, SIDDHARTHA SHANKAR —b. Oct. 20, 1920; called to the bar from the Inner Temple 1946; Law Minister, Govt. of West Bengal 1957; resigned the post after a while and quit the Congress; later he returned to the Congress; leader of the Opposition, West Bengal Legislative Assembly, 1969-70; was Union Minister of Education and Social Welfare as well as Culture, 1971 also Central Minister in charge of West Bengal Affairs; Chief Minister of West Bengal, March 1972-77; Governor of Punjab since 1986.

REDDY, NEELAM SANJIVA —b. May 19, 1913; was educated in Madras; joined Non-Co-operation Movement, 1930; was jailed several times; Secretary, Andhra Pradesh Congress Committee, 1938-48;

President of the Andhra Pradesh Congress Committee for three times; Member, Constituent Assembly; Member Rajya Sabha, 1952; was Chief Minister, Andhra Pradesh Congress Committee for three times; Member, Constituent Assembly; Member Rajya Sabha, 1952; was Chief Minister, Andhra Pradesh Indian National Congress 1955-59 and again in 1962-64; President, Indian national Congress 1959-62; Union Minister for Steel and Mines 1964-65; Transport, Civil Aviation, 1966-67; Speaker, Lok Sabha, 1967-69 and Mar-July, 1977; was President of India, Aug. 1977-24 July 1982.

ROUTHRAY, NILMONY —b. May 24, 1920; Member, Orissa State Assembly, 1948-67, 1971-73 and again since 1977; Dy. Minister in Orissa, 1952-57; Minister of Home Supply, Commerce, Forest, Labour etc. during 1957-67; Dy. Chief Minister, 1963-65; joined Utkal Congress in 1970; Minister Home, Mining, Supply and Public Undertakings, 1971; Dy. Chief Minister, 1972; resigned on Feb. 28, 1973; was editor of 'Prajatantra' an Oriya daily; General Secretary of INTUC, Orissa, President of INTUC, 1948; led delegation of ILO in Geneva, 1964; Member, Rajya Sabha, 1976; President, Utkal Pradesh Congress, 1967-70; President Utkal Congress and State Union of Bharatiya Lok Dal, 1970; Chief Minister of Orissa, since July 1977-80.

RUKMINI, DEVI —b. 1904; started dancing under Anna Pavlova; conducted research in dance, music and drama; specialised in Bharat Natyam, music drama, painting and craft; Director, the Besant Theosophical School, Adyar; Head of the Inter Theosophical Centre, Huizen, the Netherlands; Director, The Arundale Training Centre for Teachers; Member, Sangeet Natak Akademi, was awarded Padma Bhushan, 1956; recipient of Sangeet Natak Akademi's award for Bharat Natyam; was twice nominated member, Rajya Sabha.

SARABHAI, GAUTAM —Dir. Calico Mills, Ahmedabad; b. 4 March, 1917, at Ahmedabad; s. of Ambalal and Saraladevi;

Edn. M.A. Cambridge, Chmn. Kar-amchand and Premchand Pvt. Ltd. (Sarabhai Chemicals), Dir. Bakuhi and Ambalal Ltd. (London).

SATHE, V.P. —b. 1926; was associated with Socialist Party and then Praja Socialist Party till 1964; was a trade union leader, Union Minister for Chemical and Fertilizer, upto Dec. 1984; Union Minister for Steel, Mine and Coal, Dec. 1984; Union Minister for Energy, 1986.

SCINDIA, MADHAV RAO —b. March 10, 1945; Industrialist and Politician; Director; Scindia Investments Ltd., Eastern International Hotels Ltd., The Bombay Dyeing and many others; member Lok Sabha, 1971-77, 1977-80, 1984; associated with Jan Sangh now with Congress (I); Union Minister of State for Railways, since 1985.

SEN, ASOKE KUMAR — b. 10 Oct. 1923 at Faridpur; joined freedom movement in Bengal 1941; advocate, Calcutta High Court, 1941; Junior Standing Counsel to West Bengal Government 1950-56; Mem. Lok Sabha 1957-77; Min. for Law 1957-66; represented Prime Minister at Commonwealth Conference in Lagos, 1966; Senior Advocate Supreme Court of India since 1966; editor, Calcutta Law Journal; Vic-Pres. Bar Assn. of India, 1954-55; Pres. Supreme Court Bar Association 1974-75; Minister, Law and Justice, 1985.

SEN, MRINAL - b. 14 May 1923, at Faridpur (Bangladesh); s. of Dineshchandra & Saraju; film Dir. & Producer; directed more than 17 films in various languages; received national and international awds; Won Cannes Festival Awd. for Khariz. 1983.

SETHI, P.C. —b. Oct. 19, 1920; was Union Dy. Minister, 1961; Minister of State for Steel and Mines 1967; was in the Finance Ministry 1969; was Chief Minister of Madhya Pradesh. Union Minister for Works and Housing, Jan. 1980-Jan. 1982; Union Railway Minister since Jan. 1982-Sept. 1982.

SHANKARANAND, B. —b. Oct., 1925; was elected to Lok Sabha, 1967; Union Education Minister Jan. 1980-Jan. 1982;

Union Minister for Health and Family Welfare, Jan. 1982-Dec. 1984; Union Minister for Irrigation and Power, since Dec. 1984.

SHARMA, RAKESH —b. Jan. 13, 1949; Cosmonaut and first Indian space traveller; IAF Test Pilot, 1970; accompanied Soviet Cosmonauts Yuri Malyshev and Gennady Streklov in space craft Soyuz T-II in April, 1984; recipient of Ashoke Chakra and title hero of the Soviet Union from Russian Government.

SETHNA, Dr. H.N. —b. Aug. 24, 1923; joined Atomic Energy Establishment at Trombay, now known as Bhabha Atomic Research Centre (BARC) as its Chief Scientific Officer, 1959; member of various scientific committees, conferences, institutes and associations; was awarded Padma Shri, 1959; Shanti Swarup Bhatnagar Memorial Award, 1960; Padma Bhushan, 1966, and Padma Vibhushan, 1975; now Chairman, Atomic Energy Commission and Secretary Govt. of India. Dept. of Atomic Energy since 1972.

SHANKAR, RAVI —b. April 7, 1920; learned music and dancing in the Company of Uday Shankar, travelled extensively in India and abroad, director of Music, A.I.R. 1949-55; written various articles on music and musicians; awarded Padma Bhushan in 1967; awarded D. Litt. (Honorary) by Rabindra Bharati University, 1973.

SHANKAR, SHIV —b. Aug. 10, 1929; was a judge of High Court, 1974 but resigned; Union Law Minister Jan. 1980-Jan. 1982; now Union Minister for Petroleum and Chemicals and Fertilizer since Jan. 1982-Sept 1982; now Union Minister for Energy and Petroleum.

SHARMA, A.P. —b. Dec. 25, 1919; was President, Bihar Pradesh Congress; Union Minister for Shipping and Transport and Civil Aviation since Jan. 1982-Sept. 1982; was Union Minister for Communications.

SINGH, BUTA —b. Mar 21, 1934; Member Lok Sabha, 1962-70, 1980, 1984; Union Deputy Minister for Railways, 1974-76, and Ministry of Commerce, 1976-77; General Secretary, AICC, 1978; former

Union Minister of State for Parliamentary Affairs and Sports with additional charge of Works and Housing; Union Minister for Home since May, 1986.

SINGH, Bhishma Narayan —b. July 13, 1933; MLA, Bihar, 1967-76; Min. of State for Education, 1971; Mines & Geology, 1972-73; Food & Supply & Commerce, 1973-74; Elected to Rajya Sabha, 1976, 1982; Union Minister of Parliamentary Affairs, Works & Housing, 1980-82; Governor of Assam and Meghalaya since 1984.

SINGH, RAO BIRENDRA —b. Feb. 20 1921; was a member of the Pratap Singh Kairon Cabinet; was Chief Minister of Haryana; Union Minister for Agriculture, Jan. 1980-Dec. 1984. Union Minister for Food and Civil Supplies since Dec. 1984.

SINGH, Dr. NAGENDRA —b. 1914; entered the Indian Civil service, 1938; member. International Law Commission 1966-72; was Chairman, U.N. Commission on International Trade Law; President, ILO Maritime Session, 1970; Secretary to the President of India, 1966-Sept 1972; Chief Election Commissioner October 1, 1972-January 1973; now a judge of the International Court of Justice at the Hague since February 1973; elected Vice-President of the Court, Feb. 1976.

SINGH, KHUSHWANT —b. Feb. 1, 1915; Barrister-at-Law practising Lawyer, High Court, Lahore, 1939-47. Indian Foreign Service, London and Ottawa 1947-51; UNESCO, 1954-56, Editor, Illustrated Weekly of India, 1969-78; Editor National Herald, since 1978; presently attached to the Hindustan Times.

SINGH, ZAIL —b. May 1, 1916; a veteran freedom fighter; was minister twice in the former Pepsu State; president of the Pepsu Congress, 1955-57; Member, Rajya Sabha 1956 and 1962; served as minister in the cabinet of Pratap Singh Kairon; was President Punjab Pradesh Congress, 1966-72; Chief Minister of Punjab, 1972-77; Union Home Minister, Jan. 1980-June 1982; now President of India since 25 July, 1982.

SINGH, VISWANATH PRATAP —b. 25 June, 1931, at Allahabad; s. of Ram

Gopal; Edn. B.A., B.Sc., LL.B. participated in Bhodan movement and donated land of village Passana; Mem. U.P. Vidhan Sabha, 1969-71; Whip Cong. Leg. Party 1970-71; Mem. AICC. 1969-71. Lok Sabha, 1971-77, Dep. Min. and later Min. of State in Union Council of Ministers, 1976-77, Chief Min. of Commerce and temporary charge of Supply since Jan. 1983 - Dec. 1984; Union Minister of Finance Dec. 1984.

SINGHANIA, HARI SHANKAR —b. June, 1933 at Kanpur, s. of Lakshmi pat and Pushpawati Devi; Edn. B.Sc. F. Inst. D.; M.B.I.M. London; Pres. J.K. Organisation; Chmn. and Mg. Dir. Straw Products Ltd., Dir. Oriental Fire and Gen. Insurance Co. Ltd., Ex-Pres. FICCI

SONAL MANSINGH —Pres. Centre for Ind. Classical Dances. New Delhi; b. 30 April, 1944 at Bombay; d. of Arvind Pakvasa and Poornima; Edn. B.A. 1963. Bombay; Kovid and visharad in Sanskrit, 1960; Learnt Bharatanatyam, first woman to learn Chhau Dance; Started Centre for Ind. Classical Dance, 1977.

SUBBU LAKSHMI M.S. —b. Sept. 1916; Carnatic Vocalist, also plays on the veena Knan for devotional Meera Bhajans; acted in films, gave concert in Edinburgh Festival, 1963; U.N.N.Y. 1966, first woman to preside over music Academy Conf. Madras. 1967; received Sangeet Natak Akademi awd. 1956, D. Litt. (Hon.) Rabin-dra Bharati Univ., 1967. D. Litt. for Delhi Univ. Magsaysay Awd. 1974.

TANVIR HABIB —b. 2. Sept. 1923, at Raipur (M.P.); Dir. Maya Theatre, New Delhi; s. of Hafiz Md. Hayat Khan and Nizirunnissa Begum; Edn. B.A. trained for Theatre at Royal Academy of Dramatics Arts, Lond.; British Drama League; Bristol, Old Vic. Theatre School; Asst. Editor. Film India; received Sangeet Natak Akademi Awd. for Drama production, 1969; nominated member of Rajya Sabha, 1972-78.

TAPASE, GANPATRAO DEBAJI —Governor of Haryana since 1980; b. 30 Oct. 1908. Edn. B.A., LL.B. Poona; Pres. Satara Congress Committee, 1938-46, took part in civil disobedience movement, 1940, imprisoned during Quit India movement, 1942, Mem. Bombay Assembly 1946, 1952, and Min. of Bombay Govt.

1946-57, held diff. portfolios, mem. Rajya Sabha. 1962-68. Chmn. Railway Service Commn., Bombay, 1968-71, Governor of U.P. Oct. 1977-Feb. 1980.

TATA, JEHPANGIR RATANJI DADABHOY —b. July 29, 1904, first pilot to qualify in India; holds A and B licences; Chairman. Air India; Member, Indian Airlines Corporation; Director Hindustan Aircraft Ltd., Chairman. Tata Industries, Tata Engineering and Locomotive Co. Ltd., Member, India delegation to the 3rd session of the U.N. General Assembly, Paris, 1948; Honorary Air Commodore I.A.F. 1966; Honorary D.Sc. Allahabad University; Officer of the Legion of Honour, France, was awarded "International Management Man" by the National Association of Foreman, U.S.A. granted an hon. commission in the Air Force as Group Captain on Sept. 27, 1948; now Hon. Air Vice-Marshal since April, 1974; was awarded Padma Vibhushan, 1955.

TATA, NAVAL HORMUSJI —Chmn. Tata group of Textiles Mills; b. 30 August. 1904 at Bombay; Edn. Bombay Univ.; Chmn. Associated Building Co. Ltd. Dir. Tata Eng. and Locomotive Co. Ltd., Ind. Hotels Co. Ltd., Sassoon J. David and Co. Ltd., Pres. Employees Federation of India National Instt. of Labour management.

TENDULKAR, VIJAY DHONDOPANTH —b. 7 Jan. 1928 at Bombay; s. of Dhondopanth Raghunath, Editor, Vasudha Dwali, Annual dipavali; written number of plays; Sakharan Binde; Ghashiram Kotwal etc. received Maharashtra Govt. awd. for plays; Sangeet Natak Akademi award for Marathi and Indian theatre, 1970.

TERESA, MOTHER —b. Aug. 27, 1910 as Agnes Gouxhia Bojashia in Yugoslavia of Albanian parents; went to Ireland at the age of 18 and entered the Congregation of Loretto; came to India six months later Nov. 1928, as teacher; after 20 years of teaching became Principal of St. Annes High School for Bengali girls in North Calcutta; began organising schools for slum children in 1948; founded in Oct. 1950, with the Pope's Sanction Order of the Missionaries of Charity; Over the year Mother Teresa (she took this name in 1931) has build up the Order which now has more

than 100 centres in the country — these include schools, charitable dispensaries, homes for lepers, a T.B. Clinic, homes for unwanted and crippled children and Nirmal Hriday, a home for dying destitutes; was awarded 15 million hñre (about Rs.1,30,000) peace prize by Pope Paul in Dec. 1970; was awarded Joseph Kennedy Jr. Award for services to the world's mentally retarded in Oct. 1971; Awarded the Padma Shri in Oct. 1962; received Ramon Magsaysay Award, 1978, was awarded the Nehru Award for International understanding 1972; received Nobel Peace Prize 1979, took Indian citizenship in 1962.

THAPAR, INDER MOHAN— Mg. Dir. Karam Chand Thapar and Bros. (Coal Sales) Pvt. Ltd. Calcutta; b. 29 Sept. 1918; s. of Karam Chand; Edn. Forman Christian College, Lahore; Chmn. or Dir. of Several Cos. including Greaves and Cotton Co. Ltd. Pres. Indian Chamber of Commerce, Calcutta; 1967. Fellow, Geological Mining and Metallurgy, Cal. Sec. of India.

THAPAR LALIT MOHAN —Mg. Dir. Karam Chand Thapar and Bros. Pvt. Ltd., Pres. and Mg. Dir. Ballavpur Industries Ltd; b. 27 Oct. 1930, at Calcutta, s. of Karam Chand; end. B. E. Chmn. Greaves Cotton and Co. Ltd., Orient Engg. and Commercial Co. Ltd. Patiala Tech. Trust, Chmn. Punjab. Haryana and Delhi Chamber of Commerce and Industry.

TIWARI, NARAYAN DATT—b. 18 Oct. 1925, at Balute; M.A. LL.B. Allahabad; took part in Quit India movement, 1942, elected to U.P. Assembly on P.S.P. ticket, 1952-57, re-elected to Assembly, an Congressman 1969-74; Min. in C.B. Gupta's Cabinet, but resigned, Min. for Finance, 1973-74 and Heavy Industries, 1974-76, Chief Minister, 1976-77.

TRIPATHI, KAMALAPATI —b. Sept. 5, 1903; was Chief Minister of Uttar Pradesh 1971-73; was Union Minister for Shipping and Transport and Railways; Union Minister for Railways, Jan. 1980-81.

VAJPAYEE, ATALBIHARI —b. Dec. 25, 1926; Member, Indian National Congress, 1942-46; was editor of 'Rashtra Dharma' (monthly), 'Panchajanya' (weekly) and 'Swadesh' (daily); Founder-Member, Jana Sangh, was member,

Rashtriya Swayamsevak Sangha; member, Lok Sabha 1957-62; Rajya Sabha, 1962-67; re-elected to Lok Sabha, 1967 and 1971; Secretary Bharatiya Jana Sangh 1968-73; Leader of the Jana Sangh in Lok Sabha; was Union Minister of Foreign Affairs, Mar. 1977-July 1979; now President of the Bharatiya Janata Party.

VATSAYAN, SACHIDANANDA HIRANANDA (AGYERA)—b. 7 Mar. 1911, at Kasia (U.P.); s. of Hirananda Sastri and Vyanti Devi; Edn. B. Sc., Editor, Vishal Bharati, 1937-39; Pratik, 1946-52, Vak, 1958-59, Everyman's 1972-73, Dinaman, 1964-69, Literary Editor, Thought, 1950-52; Editor, Navbharat Times, 1977-79; Dir., Dep't. of Comp. Ltd. Land, Jodhpur Univ. 1971-72; Visiting Prof. California, Heidelberg. etc. Sahitya Akademi Awd. 1962; Jnanpith Award for poetry, 1979.

VENKATASUBBIAH, P.—b. June, 18 1921; Union Minister of State for Home; took active part in agitation against Bangarapalla ruler; led Kissan movements for reduction of oppressive land revenue; founded Bangarapalla State Congress and worked for State merger with Indian Union, 1948; member Madras Assembly, 1949-52; Lok Sabha 1957-79; Governor of Bihar, 1985.

VENKATARAMAN, R.—b. 1910; studied law and enrolled in Madras High Court; was President of several trade unions; was a member of the interim Parliament and first Lok Sabha; was minister of Industry under K. Kamraj and Bhaktavatsalam; became a member of the Planning Commission in Charge of Industries in 1967 for a term; Union Finance Minister Jan. 1980-Jan 1982; was Union Defence Minister since Jan. 1982. Vice-President of India since 1984; President, 25th July, 1987.

VIJAYABHASKARA REDDY, K.—Min. for Shipping and Transport, (temporary charge) since Jan. 1983; b. 1922; Edn. Law Graduate from Madras Univ. took part in Quit India Movement, Mem. State Assembly, 1955-62, Min. for Co-operation, 1967. Mem. Legislative Council, Min. for Finance; Mem. Lok Sabha, 1977-79; Chief Minister of Andhra Pradesh.

ELECTION

LOK SABHAA

*Speaker—Rabi Roy**Dy. Speaker—Thambi Durai*

STATES

ANDHRA PRADESH (42)

Adilabad—P. Narasa Reddy (Cong.—I)
 Amlapuram (SC)—Kusuma Krishna Murthy (Cong.—I)
 Anantapur—Anantha Veinkata Reddy (Cong.—I)
 Anakapalli—K. Ramkrishna (Cong.—I)
 Bhadrachalam (ST)—K. Kamala Kumari (Cong.—I)
 Bapatla—Salagal Benjamin (Cong.—I)
 Bobbili—K. Ramamohon Rao (TDP)
 Chittoor—G. Reddy (Cong.—I)
 Cuddapah—Y.S. Rajasekhar Reddy (Cong.—I)
 Eluru—G. Krishna (Cong.—I)
 Guntur—N.G. Ranga (Cong.—I)
 Hanamkonda—Kamaluddin Ahmed (Cong.—I)
 Hindupur—S. Gangadhar (Cong.—I)
 Hyderabad—Sultan Salahuddin Owaisi (Ind)
 Kakinada—M. Mandapathi (Cong.—I)
 Karimnagar—J.C. Rao (Cong.—I)
 Khammam—J.V. Rao (Cong.—I)
 Kurnool—Kotia Vijayabhaskara Reddy (Cong.—I)
 Machilipatnam—K. Sambasiva Rao (Cong.—I)
 Mahaboobnagar—Mallikarjun (Cong.—I)
 Medak—M. Baga Reddy (Cong.—I)
 Maryalhuda—B.L. Reddy (Cong.—I)
 Nagar Kurnool (SC)—Ananthramulu Mallu (Cong.—I)
 Nalgonda—C. Srinivasa Rao (Cong.—I)
 Nandyal—Bojja Reddy (Cong.—I)
 Narasapur—B. Vijay Kumar Raju (TDP)
 Narasaraopet—Kasu Venkata Krishna Reddi (Cong.—I)
 Nellore (SC)—P. Penchalaich (Cong.—I)
 Nizamabad—T. Bala Goud (Cong.—I)
 Ongole—Raja Mohan Reddy (Cong.—I)
 Paravathipuram (ST)—S. Vijayaramaraju (Cong.—I)
 Peddapalli (SC)—G. Venkat Swamy (Cong.—I)
 Rajahmundry—Jamuna (Cong.—I)
 Rajampet—A. Sai Pratop (Cong.—I)
 Secundrabad—T. Manemma (Cong.—I)
 Siddipet (SC)—N. Yellaiah (Cong.—I)
 Srikakulam—K. Vishwanath (Cong.—I)
 Tenali—S. Basavapunniah (Cong.—I)
 Tirupathi (SC)—Chinta Mohan (Cong.—I)
 Vijayawada—C. Vidya (Cong.—I)
 Visakhapatnam—Umagajapathi Raju (Cong.—I)
 Warrangal—Surendra Reddy (Cong.—I)

ARUNACHAL PRADESH (2)

Arunachal East—Laeta Umbrey (Cong-I)

Arunachal West—Prem Khandu Thungon (Cong-I)

BIHAR (54)

Araria (SC)—Dumarlal Baitha (Cong.—I)

Arrah—Rameshwar Prasad (IPF)

Aurangabad—Ram Naresh Singh (Janata Dal)

Bagaha (SC)—Mahendra Baitha (Janata Dal)

Ballia—Surya Narayan Singh (CPI)

Banka—Pratap Singh (Janata Dal)

Barh—Nitish Kumar (Janata Dal)

Begusarai—Lalit Vijay Singh (Janata Dal)

Bettaiah—Dharmesh Prasad 'Versa' (Janata Dal)

Bhagalpur—Chunchun Prasad Yadav (Janata Dal)

Bikramganj—Ram Prasad Singh (Janata Dal)

Buxur—Tez Narayan Singh (Buxar)

Chapra—Lallu Prasad (Janata Dal)

Darbhanga—Shaekelur Rahaman (Janata Dal)

Dhanbad—A.K. Roy (Ind)

Dumka—(ST)—Shibu Saren (JMM—S)

Gaya (SC)—Ishwar Chowdhury (BJP)

Giridhi—Ram Das Singh (BJP)

Gopalganj—Raj Mongal Mishra (Janata Dal)

Hazaribagh—Yadunath Pandey (BJP)

Jamshedpur—Shailendra Mahato (JMM)

Jehanabad—Ramashray Prasad Singh (CPI)

Katihar—Yuvraj (Janata Dal)

Khagaria—Ram Saran Yadav (Janata Dal)

Khuti (ST)—Karia Munda (BJP)

Kishanganj—M.J. Akbar (Cong—I)

Kodarma—Rit Lal Prasad Verma (BJP)

Lohardaga (ST)—Smt. Sumati Oraon (Cong.—I)

Medhepura—Ramendra Kumar Yadav Ravi (Janata Dal)

Madhubani—Bhogendra Jha (CPI)

Maharajganj—Krishna Pratap Singh (Cong.—1)

Majipur—Ram Vilas Paswan (Janata Dal)

Monghyr—Dhanraj Singh (Janata Dal)

Motihari—Radha Mohan Singh (BJP)

Muzaffarpur—George Fernandes (Janata Dal)

Nalanda—Ram Swaroop Prasad (Nalanda)

Nawadah (SC)—Prem Pradeep (CPI—M)

Palamau—Jarawar Ram (Janata Dal)

Purnea—Taslimuddin (Janata Dal)

Rajmahal (ST)—Simon Marandi (JMM)

Ranchi—Subodh Kant Sahay (Janata Dal)

Rosera (SC)—Deshai Chaudhury (Janata Dal)

Saharsa—Surya Narian Yadav (Janata Dal)

Samastipur—Manjari Singh (Janata Dal)

Sasaram (SC)—Chedi Paswan (Janata Dal)

Sheohar—Hari Kishore Singh (Janata Dal)

Singbhum (ST)—Bagum Sumbrui (Cong.—I)

Siwam—Janardan Tiwari (BJP)

Vaishali—Usha Singh (Janata Dal)

GUJARAT (26)

Ahmedabad—Harin Pathak (BJP)
 Amreli—Monubhai Kotamliya (Janata Dal)
 Anand—Natubhai Patel (BJP)
 Banaskantha—Jayantilal Shah (Janata Dal)
 Baroda—Prakash Brahmabhatt (Janata Daal)
 Bhavanagar—Shashikant Jamod (Cong.—I)
 Broach—Chandubhai Deshmukh (BJP)
 Bulsar (ST)—Arjun Patel (Cong.—I)
 Chhota Udaipur—Narenbhai Rathiwa (Janata Dal)
 Dhandhuka (SC)—Ratilal Varma (BJP)
 Dohad (ST)—Somjibhai Damor (Cong.—I)
 Gandhinagar—Shankarrimji Vaghela (BJP)
 Godhra—Shantibhai Patel (Janata Dal)
 Jamnagar—Chandresh Patel (BJP)
 Junagadh—Shekhadia Govindbhai Kanjibhai (Janata Dal)
 Kaira—Chauhan Prabhatsinh Hathisinh (Janata Dal)
 Kapadyanj—Gabhaaji Thaiore (BJP)
 Kutch—Babulhai Shah (BJP)
 Mandvi (ST)—Chhitubhai Gamit (Cong.—I)
 Mehsana—A.K. Patel (BJP)
 Patan (SC)—Khemchand Chavda (Janata Dal)
 Porbandar—Manavar Balvantbhai Bachubhai (Janata Dal)
 Rajkot—Shivlal Vakaria (BJP)
 Sabarkantha—Maganbhai Patel (Janata Dal)
 Surat—Kashiram Rana (BJP)
 Surendranagar—Somabhai Patel (BJP)

HARYANA (10)

Ambala (SC)—Ram Prakash (Cong.—I)
 Bhiwani—Bansi Lal (Cong.—I)
 Chandigarh—Harmahan Dhawan (Janata Dal)
 Faridabad—Bhajan Lal (Cong.—I)
 Hissar—Jai Prakash (Janata Dal)
 Karnal—Chiranji Lal Sharma (Cong.—I)
 Kurukshetra—Gurdial Singh Saini (Janata Dal)
 Mahendragarh—Birendra Singh (Janata Dal)
 Rohtak—Devilal (Janata Dal)
 Sirsa (SC)—Het Ram (Janata Dal)
 Sonapat—Kapil Dev Shastri (Janata Dal)

HIMACHAL PRADESH (4)

Hamirpur—Prem Kumar Dhumal (BJP)
 Kangra—Shanta Kumar (BJP)
 Mandi—Sukh Ram (Cong.—I)
 Simla (SC)—Krishna Datt Sultanpuri (Cong.—I)

JAMMU & KASHMIR (6)

Jammu—Janak Raj Gupta (Cong.—I)
 Leh—Mahammad Hassaan Commander (Ind)
 Srinagar—Addul Rashid Kabuli (JKN)
 Udhampur—Dharam Pal (Cong.—I)

KARNATAKA (28)

Bagalkot—Patil Subhash (Cong.—I)
 Bangalore North—C.K. Jaffer Sharief (Cong.—I)
 Bangalore South—
 Belgaum—S.B. Sindal (Cong.—I)
 Bellary—Sm. Basavarajeswari (Cong.—I)
 Bidar (SC)—Narsingh Rao Suryavamshi (Cong.—I)
 Bijapur—D.K. Gudadinni (Cong.—I)
 Chamarajnanagar (SC)—V. Srinivasa Parasad (Cong.—I)
 Chickballapur—V. Krishna Rao (Cong.—I)
 Chikmagalur—D.K. Puttegowda (Cong.—I)
 Chikkodi (SC)—B. Shankaranand (Cong.—I)
 Davangere—Channaiah Odeyar (Cong.—I)
 Dharwar North—D.K. Naikar (Cong.—I)
 Dharwar South—B.M. Mujahid (Cong.—I)
 Gulbarga—B.G. Javali (Cong.—I)
 Kanakapura—M.V. Chandrasekhar Murthy (Cong.—I)
 Kolar (SC)—Y. Ramakrishna (Cong.—I)
 Koppal—Basavaaraj Patil Anwari (Janata Dal)
 Mandya—G.Made Garoda (Cong.—I)
 Mangalore—J. Pujari (Cong.—I)
 Mysore—S.D. Narasimharaja Wadiyar (Cong.—I)
 Raichur—Naik Darai (Cong.—I)
 Shimoga—T.V. Chandrasekharappa (Cong.—I)
 Tumkur—G.S. Basavaraju (Cong.—I)
 Udupi—Oscar Fernandes (Cong.—I)

KERALA (20)

Adoor (SC)—K.Suresh (Cong.—I)
 Alleppey—Vakkom Purushothaman (Cong.—I)
 Badagara—P.K. Unnikrishnan (Cong.—S)
 Calicut—K.Muralidharan (Cong.—I)
 Cannanore—M. Ramchandran (Cong.—I)
 Chirayinkil—Thalekunni Basheer (Cong.—I)
 Ernakulam—K.V. Thomas (Cong.—I)
 Idukki—Palai Mathew (Cong.—I)
 Kasargod—M. Rama Rai (Cong.—I)
 Kottayam—Ramesh Channithala (Cong.—I)
 Manjeri—Ibrahim Sulaiman Sait (Muslim League)
 Mavelikara—P.J. Kurien (Cong.—I)
 Mukundapuram—Savithri Lakshman (Cong.—I)
 Muvettupuzha—P.C. Thomas (Ker Cong.—M)
 Ottappalam (SC)—K.R. Narayanan (INC)
 Palghat—A. Vijayaraghavan (CPI—M)
 Ponnani—G.M. Bantwala (Muslim League)
 Quilon—S.Krishna Kumar (Cong.—I)
 Trichur—P.A. Antony (Cong.—I)
 Trivandrum—A. Charles (Cong.—I)

MADHYA PRADESH (40)

Balaghat—Kankar Munjari (Ind)
 Bastar (ST)—Mankooram Sandhi (Cong.—I)

Betul—Arif Beg (BJP)
 Bhind—Narsingh Rao Dixit (BJP)
 Bhopal—Sushil Chandra Verma (BJP)
 Bilaspur (SC)—Reshamlal Jangada (BJP)
 Chhindwara—Kamal Nath (Cong.—I)
 Damoh—Lakendra Singh (BJP)
 Dhar—Suryabhan Singh Solanki (Cong.—I)
 Durg—Purshattam Kaushik (Janata Dal)
 Guna—Vijayaraje Scindia (BJP)
 Gwalior—Madhav Rao Scindia (Cong.—I)
 Hoshangabad—Sardar Sartaj Singh (BJP)
 Indore—Sumitra Mahajan (BJP)
 Jabalpur—Baburao (BJP)
 Jhabua (ST)—Gabbaji (DDP)
 Kanker (ST)—Arvind Netam (Cong.—I)
 Khajuraho—Uma Bharti (BJP)
 Khandwa—Amritlal Tarwal (BJP)
 Khargone—Rameshwar Patidar (BJP)
 Mahasamund—V.C. Shukla (Janata Dal)
 Mandla (ST)—Mohonlal (Cong.—I)
 Mandsaur—Balh Laxmi Narain (BJP)
 Morena (SC)—Chhauiram Aegal (BJP)
 Raigarh (ST)—Nandkumar Sai (BJP)
 Raipur—Ramesh Bais (BJP)
 Rajgarh—Pyarelal Khandelwal (BJP)
 Rajanandgaon—Dharampal Gupta (BJP)
 Rewa—Yamuna Prasad (Janata Dal)
 Sagar (SC)—Shankarlal (BJP)
 Sarangarh (SC)—Parasram Bhardwaj (Cong.—I)
 Satna—Sukhendra Singh (BJP)
 Seoni—Pralhad Singh (BJP)
 Shajapur (SC)—Phool Chand Verma (BJP)
 Sidhi—Jagannath Singh (BJP)
 Surguja (ST)—Larang Sai (BJP)
 Ujjain (SC)—Satya Narain Jaria (BJP)
 Vidisha—Raghavi (BJP)

MAHARASHTRA (48)

Ahmednagar—Y.S. Gadakh (Cong.—I)
 Akola—Pandurong Phundhar (BJP)
 Amravati—Sudham Deshmukh (CPI)
 Aurangabad—Moreshwar Save (Ind.)
 Baramati—Shankar Bajirao Patil (Cong.—I)
 Bhandara—K.A. Pardhi (Cong.—I)
 Beed—Dhakane Babanrao Dadaba (Janata Dal)
 Bombay North—Ram Naik (BJP)
 Bombay North-Central—Vidhyadhar Gokhale (Shiv Sena)
 Bombay North-East—Jaywantiben Mehta (BJP)
 Bombay North-West—Sunil Dutt (Cong.—I)
 Bombay South—Deora Murli (Cong.—I)
 Bombay South-Central—Wamanrao Mahadik (Ind)
 Bhuldhana (SC)—Sukhadeo Kale (BJP)

Chimur—Shiwankar Mahadeorao Sukaji (BJP)
 Dhule (ST)—R.M. Bhoje (Cong—I)
 Erandol—Uttamras Patil (BJP)
 Ichalkaranji—R.S. Mane (Cong—I)
 Jalgaon—Y.S. Mahajan (Cong—I)
 Jalna—Pundlik Dhanve (BJP)
 Khed—Kisanrao Dankhele (Janata Dal)
 Kuiaba—A.R. Antulay (Cong—I)
 Kolhapur—Udaysingrao N. Gaekwad (Cong—I)
 Kopargaon—E.V. Vikhe (Cong—I)
 Latur—Shivraj Patil (Cong—I)
 Malegaon (ST)—Haribhan Shankar Mahali (Janata Dal)
 Nanded—Venkatesh Kabade (Janata Dal)
 Nandurbar (ST)—Manikras Gavit (Cong—I)
 Nasik—Daulatrao Aher (BJP)
 Osmanabad—A.T. Kamble (Cong—I)
 Pandharpur—S.B. Thorat (Cong—I)
 Parbhani—Ashok Deshmukh (IND)
 Pune—V.N. Gadgil (Cong—I)
 Rajapur—Modhu Dandavate (Janata Dal)
 Ramteh—P.V. Narasimha Rao (Cong—I)
 Ratnagiri—Govindrao Nikan (Cong—I)
 Sholapur—Dharmaiyya Mandaiyya Sadul
 Thane—Kapre Ramchandra Ganesh (BJP)
 Wardha—V.P. Sathe (Cong—I)
 Washim—A.V. Deshmukh (Cong—I)
 Yeotmal—Uttamrao Patil (Cong—I)

MANIPUR (2)

Inner Manipur—N. Tombi Singh (Cong—I)
 Outer Manipur (ST)—M. Kamson (Cong—I)

MEGHALAYA (2)

Shillong—Peter. G. Marbaniang (Cong—I)
 Tura—Sandford Marak (Cong—I)

MIZORAM (1)

Mizoram (ST)—C. Silvera (Cong—I)

NAGALAND (1)

Shikiho Sema (Cong—I)

ORISSA (21)

Aska—Ananta Narayan Singhdeo (Janata Dal)
 Balasore—Samarendra Kundu (Janata Dal)
 Berhampur—Gopinath Gajapati Narayan Deo (Cong—I)
 Bhadrak (SC)—Mangaraj Mallik (Janata Dal)
 Bhubaneswar—Sivaji Patnaik (CPI—M)
 Bolangir—Balgopal Mishra (Janata Dal)
 Cuttack—Srikanta Jena (Janata Dal)
 Deogarh—Rabi Narayan Pani (Janata Dal)

Dhenkanal—Bhajaman Behera (Janata Dal)
 Jagat Singhpur—Lok Nath Chowdhury (CPI)
 Jajpur (SC)—Anadi Charan Das (Janata Dal)
 Kalahandi—Bhakta Charan Das (Janata Dal)
 Kendrapara—Rabi Ray (Janata Dal)
 Keonjhar(ST)—Gobinda Chandra Munda (Janata Dal)
 Koraput (ST)—Giridhari Gomango (Cong.—I)
 Mayurbhanj (ST)—Bhage Gobardhan (Janata Dal)
 Nowrangpur (ST)—Khagapathi Pradhan (Cong.—I)
 Phulbani (SC)—Iula Nayak (Janata Dal)
 Puri—Nilmony Routroy (Janata Dal)
 Sambalpur—Bhawani Shankar Hota (Janata Dal)

PANJAB (13)

Amritsar—Kripal Singh (Ind.)
 Bhatinda—Sucha Singh (Akali Dal—Mann)
 Faridkot—Jagdev Singh Khudian (Akali Dal—Mann)
 Ferozepur—Dhian Singh Mand (Ind.)
 Gurdaspur—Sukhbans Kaur Bhinder (Cong.—I)
 Hoshiarpur—Kamal Chowdhary (Cong.—I)
 Jalandhar—I.K. Gujral (Janata Dal)
 Ludhiana—Rajinder Kaur (Akali Dal—Mann)
 Patiala—Atinder Pal Singh (Ind.)
 Phillaur—Harbhajan Ram (BJP)
 Ropar—Bimal Kaur Khalsa (Akali Dal—Mann)
 Sangrur—Rajdev Singh (Akali Dal—Mann)
 Tarn Taron—Simranjeet Singh Mann (Akali Dal—Mann)

RAJASTHAN (25)

Ajmer—Rasa Singh (BJP)
 Alwar—Ramjilal Yadav (Janata Dal)
 Barmer—Kalyan Singh Kalvi (Janata Dal)
 Bayana (SC)—Than Singh Jatav (BJP)
 Bhilwara—Hemendra Singh (Janata Dal)
 Chittorgarh—Mahendra Singh (BJP)
 Dausa—Nathu Singh (BJP)
 Jalore (SC)—Kailash Meghwal (BJP)
 Jhalawar—Vasundhara Rajey (BJP)
 Pali—Gumanmal Lodha (BJP)
 Sikar—Devi Lal (Janata Dal)

SIKKIM (6)

Sikkim—Nandu Thapa (Sikkim Sangram Parishad)
 Loosing-Pacheykhani—Rupraj Rai (SSP)
 Regu—Rajendra Prasad Upreti (SSP)
 Dzong—Sonam Choda (SSP)
 Geyzing—Man Bahadur Dahal (SSP)
 Pathing—Ram Lepcha (SSP)

TAMIL NADU (39)

Arkonam—R. Jeevarathinam (Cong.—I)
 Chidambaram (SC)—P. Vallal Peruman (Cong.—I)
 Chingleput—Kanchi Panneerselvam (AIADMK)
 Coimbatore—C.K. Kuppuswamy (Cong.—I)

Cuddalore—P.R.S. Venkatesan (Cong.—I)
 Dharampuri—M.G. Sekar (AIADMK)
 Dindigul—C.Srinivasan (AIADMK)
 Gobichettipalayam—P.G. Narayanan (AIADMK)
 Karur—M. Thambithuria (AIADMK)
 Krishnagiri—K.Ramamurthy (Cong.—I)
 Madras Central—Era Anbarasu (Cong.—I)
 Madras North—D. Pandian (Cong.—I)
 Madras South—Vyjayanthimala Bali (Cong.—I)
 Madurai—A.G.S. Rambabu (Cong.—I)
 Mayiladuthurai—E.S.M. Pakeer Mohamed (Cong.—I)
 Nagapattinam (SC)—M. Selvarasu (CPI)
 Nagercoil—N.Dennis (Cong.—I)
 Nilgiris—R.Prabhu (Cong.—I)
 Periyakulam—R. Muthiah (AIADMK)
 Perambalur (SC)—A.Ashokraj (AIADMK)
 Pollachi(SC)—B.Raja Ravi Varan (AIADMK)
 Pudukkottai—N. Sunderajan (Cong.—I)
 Ramanathapuram—V. Rajeswaram (Cong.—I)
 Rasipuram (SC)—B. Devrajan (Cong.—I)
 Salem—R. Kumaramangalam (Cong.—I)
 Sivaganga—P. Chidambaram (Cong.—I)
 Sivakasi—K. Kalimuthu (AIADMK)
 Sriperumbudur (SC)—Maragatham Chandrasekhar (Cong.—I)
 Tenkasi (SC)—M. Arunachalam (Cong.—I)
 Thanjavur—S.Singaravadevel (Cong.—I)
 Tindivanam—R. Karamadoss (Cong.—I)
 Tiruchendur—R. Dhanushkodi Atkithan (Cong.—I)
 Tiruchengode—K.C. Palanisamy (AIADMK)
 Tiruchirapalli—L. Adaikalaraj (Cong.—I)
 Tirunelveli—M.R.Janardhanan (AIADMK)
 Tirupattur—A. Jayamohan (Cong.—I)
 Vellore—A.K.A. Abdul Samad (Cong.—I)
 Vandavasi—L. Balaraman (Cong.—I)

TRIPURA (2)

Tripura East (ST)—Maharaja Kirit Bikram Debbarma (Cong.—I)
 Tripura West—Santosh Mahon Deb (Cong.—I)

UTTAR PRADESH (85)

Agra—Ajay Singh (Janata Dal)
 Akbarpur (SC)—Ram Awadh (Janata Dal)
 Aligarh—Satya Pal Malik (Janata Dal)
 Allahabad—Janeshwar Mishra (Janata Dal)
 Almora—Harish Rawat (Cong.—I)
 Amethi—Rajiv Gandhi (Cong.—I)
 Amroha—Hargovind Singh (Janata Dal)
 Aonla—Rajvir Singh (BJP)
 Baghpat—Ajit Singh (Janata Dal)
 Bahraich—Arif Mohammad Khan (Janata Dal)
 Balia—Chandra Sekhar (Janata Dal)
 Balarampur—Fasiur Rahman (IND)
 Banda—Ram Sajivan (CPI)

Bansgaon (SC)—Mahabir Prasad (Cong.—I)
 Bara Banki (SC)—Ram Sagar (Janata Dal)
 Bareilly—Santosh Kumar Gangwar (BJP)
 Bijnor (SC)—Maya Vati (BSP)
 Bilhaur—Arun Nehru (Janata Dal)
 Bhudaun—Sharad Yadav (Janata Dal)
 Bulandshahr—Sharvar Hussain (Janata Dal)
 Chandauli—Kailash Nath Yadav (Janata Dal)
 Deoria—Rajmangal Pandey (Janata Dal)
 Domariaganj—Brij Bhushan Tiwari (Janata Dal)
 Etah—Mahadeepak Singh (BJP)
 Etawah—Ram Singh Sakhya (Janata Dal)
 Fareedpur—Siya Ram Sagar (Ind)
 Farukhabad—Santosh Bhartiya (Janata Dal)
 Fatehpur—Vishwanath Pratap Singh (Janata Dal)
 Faizabad (SC)—Ranjit Lal Suman (Janata Dal)
 Garhwal—Chandra Mohan Singh Negi (Janata Dal)
 Ghatampur (SC)—Kesri Lal (Janata Dal)
 Ghazipur—Jagdish Kashwah (Ind.)
 Ghosi—Kalp Nath (Cong.—I)
 Gonda—Anand Singh (Cong.—I)
 Gorakhpur—Mahant Avaidhnath (HMS)
 Hamirpur—Swami Prasad Singh (Cong.—I)
 Hapur—K.C. Tyagi (Janata Dal)
 Hardoi—Parai Lal (Janata Dal)
 Hardwar (SC)—Jaspal Singh (Cong.—I)
 Hathras (SC)—Bangali Singh (Janata Dal)
 Jalaun—Ram Sewak Bhatia (Janata Dal)
 Jaleswar—Multan Singh (Janata Dal)
 Jaunpur—Rajayadevendra Datt (BJP)
 Jhansi—Rajendra Agnihotri (BJP)
 Kairana—Harpal (Janata Dal)
 Kaisergani—Rudra Singh (BJP)
 Kannauj—Choteylal Yadav (Janata Dal)
 Kanpur—Subhasini Ali (CPI—M)
 Kanwar—Bhupendra Nath (Ind.)
 Kheri—Usha Verma (Cong.—I)
 Khurja (SC)—Bhagwan Das (Janata Dal)
 Lalganj (SC)—Ramdhan (Janata Dal)
 Lucknow—Mandhata Singh (Janata Dal)
 Machhlishahr—Sheo Saran (Janata Dal)
 Maharajganj—Harsvardhan (Janata Dal)
 Manipur—Udai Pratap Singh (Janata Dal)
 Mathura—Manabendra Singh (Janata Dal)
 Meerut—Harish Pal (Janata Dal)
 Mirzapur—Yousf Beg (Janata Dal)
 Misrikh (SC)—Ram Lal Rahi (Cong.—I)
 Mohanlalganj—Jagan Nath Prasad (Cong.—I)
 Moradabad—Gulam Mohamad Khan Hariji (Janata Dal)
 Muzaffarnagar—Mufti Mohammad Sayeed (Janata Dal)
 Nainital—Mahendra Singh Pal (Janata Dal)
 Phulpur—Ram Pujan Patel (Janata Dal)
 Pilibhit—Maneka Gandhi (Janata Dal)

Pratapgarh—Raja Dinesh Singh (Cong.—I)
 Rae-Bereli—Sheila Kaul (Cong.—I)
 Saharanpur—Rashid Masood (Janata Dal)
 Saidpur—Ram Sagar (BJP)
 Salempur—Harkewal Prasad (Janata Dal)
 Sambhal—S.T. Yadav (Janata Dal)
 Shahabad—Dharamganj Singh (Cong.—I)
 Shahjahanpur—Sataya Pal Singh (Janata Dal)
 Sitapur—Smt. Rajendra Kumari Bajpai (Cong.—I)
 Sultanpur—Ram Singh (Janata Dal)
 Sunha—Sarve Raj Singh (Janata Dal)
 Tehri Garwal—Brahma Dutta (Cong.—I)
 Unnao—Anwar Ahmed (Janata Dal)
 Varanasi—Anil Shastri (Janata Dal)

WEST BENGAL (42)

Alipurduar (ST)—Pijush Tirkey (RSP)
 Arambagh—Anil Basu (CPI—M)
 Asansol—Haradhan Roy (CPI—M)
 Balurghat (SC)—Palas Barman (RSP)
 Bankura—Basudeb Achariya (CPI—M)
 Barasat—Chitta Basu (CPI—M)
 Barrackpore—Tarit Baran Topder (CPI—M)
 Basirhat—Monoranjn Sur (CPI—M)
 Berhampur—Nani Bhattacharya (RSP)
 Birbhum (SC)—Ramchandra Dome (CPI—M)
 Bishnupur—Sukhendru Khan (CPI—M)
 Bolpur—Somnath Chatterjee (CPI—M)
 Burdwan—Sudhir Roy (CPI—M)
 Calcutta North East—Ajit Kumar Panja (Cong.—I)
 Calcutta North West—Debi Prasad Pal (Cong.—I)
 Calcutta South—Biplab Dasgupta (CPI—M)
 Contai—Sudhir Giri (CPI—M)
 Cooch Behar (SC)—Amar Roy Pradhan (FB)
 Darjeeling—Inderjeet (GNLF)
 Diamond Harbour—Amal Dutta (CPI—M)
 Dum Dum—Nirmal Kanti Chatterjee (CPI—M)
 Hooghly—Rupchand Pal (CPI—M)
 Howrah—Sushanta Chakraborty (CPI—M)
 Jadavpur—Malini Bhattacharya (CPI—M)
 Jalpaiguri—Manik Sanyal (CPI—M)
 Jangipur—Zainal Abedin (CPI—M)
 Jhargram (ST)—Maltilal Hansda (CPI—M)
 Joynagar (SC)—Sanat Kumar Mondal (RSP)
 Katwa—Saifuddin Chowdhury (CPI—M)
 Krishnagar—Ajoy Mukherjee (CPI—M)
 Malda—A.B.A. Gani Khan Choudhury (Cong.—I)
 Mathurapur (SC)—Radhika Ranjan Pramanik (CPI—M)
 Midnapur—Indrajit Gupta (CPI)
 Murshidabad—Syed Masudal Hossain (CPM)
 Nabadwip (SC)—Ashim Bala (CPI—M)
 Panskura—Smt. Gita Mukherjee (CPM)

Purulia—Chitta Ranjan Mahato (FB)
 Rajjanj—Golam Yazdani (Cong.—I)
 Serampore—Sudarshan Roychaudhury (CPI—M)
 Tamluk—Satya Gopal Misra (CPI—M)
 Ulberia—Hannan Mollah (CPI—M)

UNION TERRITORIES

ANDAMAN & NICOBAR ISLANDS (1)

Manoranjan Bhakta (Cong.—I)

CHANDIGARH (1) :— Harmohan Dhawan (Janata Dal)

DADRA & NAGAR HAVELI (1) :— Mohan Belkar (Ind)

DAMAN & DIU Daman & Diu—Tandal Devji Jogibhai (Ind)

DELHI (7)

Chandni Chowk—Jai Prakash Agarwal (Cong.—I)
 East Delhi—H.K.L. Bhagat (Cong.—I)
 Karolbagh (SC)—Kalka Dass. (BJP)
 New Delhi—L.K. Advani (BJP)
 Quter Delhi—Tarit Singh (Janata Dal)
 Sadar Delhi—Vijay Kumar Malhotra (BJP)
 South Delhi—Modan Lal Khurana (BJP)

LAKSHADEEP (1) :— P.M. Sayeed (Cong.—I)

PONDICHERY (1) :— P. Shanmugham (Cong.—I)

ANGLO-INDIAN (2)

A.E.T. Barrow
 Frank Antony

RAJA SABHA

Chairman—Shankar Dayal Sharma

Deputy Chairman—Mrs. Nazma Heptulla

STATES

ANDHRA PRADESH—18

Syed Rahmat Ali (Cong.—i), M.R. Apparow (Cong.—I), Krishna Mohan Bhamidipati (Cong.—I), A.S. Chowdhuri (Cong.—I), M.R. Krishna (Cong.—I), Buddha Priya Maurya (Ind), Smt. Roda Mistry (Cong.—I), N.P. Chengarlaraya Naidu (Cong.—I), G. Swamy Naik (Cong.—I), W.L.N. Prasad (Cong.—I), Md. Rahmathulla (Cong.—I), Palavalasa Rajasekharam (Cong.—I), V.B. Raju (Cong.—I), K.V. R.S. Bala Subha Rao (Cong.—I), V.C. Kesava Rao (Cong.—I), B. Satyanarayan (L.D.), T.Chandra Sekhara Reddy (Cong.—I), Ghouse Mohiuddin Sheikh (Cong.—I).

ASSAM—7

Bipinpal Das (Cong.—I), Biswa Goswami (Janata), Dinesh Goswami (Ind), Bijoy Krishna Handique (Cong.—I), Robin Kakati (Janata) < Syed Abdul Malik (Cong.—I), Ajit Kumar Sharma (Soc.)

BIHAR—22

Ashwani Kumar (B.J.P.), Ramchandra Bharadwaj (Cong.—I), Bhola Prasad (C.P.I.), Ram Lakshan Prasad Gupta (B.J.P.), Smt. Aziza Imam (Cong.—I), Dharachand Jain (Cong.—I), Shiva Chandra Jha (Janata), Sitaram Kesri (Cong.—I), Mahendra Mohan Mishra (Cong.—I), Smt. Manorama Pandey (Cong.—I), Ram Bhagat Paswan (Cong.—I), Dayanand Sahaya (Janata), Syed Shahabuddin (Janata), A.P. Sharma (Cong.—I), Yogendra Sharma (C.P.I.), Bhola Paswan Shastri (Cong.—S), Bhishma Narain Singh (Cong.—I), J.K.P.N. Singh (Cong.—I), Smt. Pratibha Singh (Cong.—I), Indradeep Sinha (C.P.I.), Hukumdeo Narayan Yadav (L.D.), Ramanand Yadav (Cong.—I).

GUJARAT—10

Lal K. Advani (B.J.P.), Golandaz M. Hussain (Cong.—I), Smt. Kumudben Manishankar Joshi (Cong.—I), Ibrahim Kalaniya (Cong.—I), Hariaingh Bhagubava mashida (Cong.—I), Yegendra Makwana (Cong.—I), Kishore Mehta (Cong.—I), Pranab Kumar Mukherjee (Cong.—I), Ghanshyambhai Oza (Janata), Manubhai Patel (Janata).

HARAYANA—5

Sushil Chand Mohunta (LD), Hari Singh Nalwa (Cong.—I), Dr. Sarup Singh (LD), Sujan Singh (Cong.—I), Sultan Singh (Cong.—I)

HIMACHAL PRADESH—3

Smt. Usha Malhotra (Cong.—I), Smt. Mohinder Kaur (B.J.P.), Roshan Lal (Cong.—I)

JAMMU AND KASHMIR—4

Tirath Ram Amla (Cong.—I), Om Mehta (Cong.—I), Sharief-ud-Din Shariq (NC), Gulam Mohi-ud-Din Shawl (N.C.)

KARNATAKA—12

Sm. Margaret Alva (Cong.—S), M. Basavaraju (Cong.—I), Smt. Monika Das (Cong.—I), R. M. Desai (Cong.—S), K.S. Malle Gowda (Ind.), Ramakrishna Hegde (Jenata) B. Ibrahim (Cong.—I), F.M. Khan (Cong.—I), Maqsood Ali Khan (Cong.—I), M. Maddanna (Cong.—I), Mulka Govinda Reddy (Cong.—I), Satchidananda (Cong.—I)

KERALA—9

T. Basheer (Cong.—S), C. Haridas (Cong.—S), O.J. Joseph (CPM), B.V. Abdulla Koya (M.L.), S. Kumaran (CPI), K.K. Madhavan (Cong.—S), K. Chathunni Master (CPM), Pattiam Rajan (CPM), K.C. Sebastian (KC).

MADHYA PRADESH (16)

Baleshwar Dayal (LD), Balaram Das (Cong.—I), N.K. Bhatt (Cong.—I), Gugudev Gupta (Cong.—I), J.K. Jain (Cong.—I), Pyarelal Khandelwai, (B.J.P.), Dr. Bhai Mahavir (B.J.P.), Bhagoiram Manhar (Cong.—I), Lathi Mohan Nigam (LD), Pravin Kumar Prajapat (Cong.—I), Rajendra Singh Ishwar Singh (Cong.—I), Sm. Ratan Kumari (Cong.—I), Sm. Vijaya Raje Scindia (B.J.P.), Sawaisingh Sisodia (Cong.—I), Smt. Maimoona Sultan (Cong.—I), Shrikant Verma (Cong.—I).

MAHARASHTRA—19

Sm. Sushila Shankar Adivarekar (Cong.—I), Jagannath Sitram Akarte (Cong.—I), Sadashiv Bagatakar (LD), Ganapat Hiralal Bhagat (Cong.—S), Murlidhan Chandrakant Bhandare (Cong.—I), Sm. Premilabai Dajisaheb Chavan (Cong.—I) Bapuraoji Marotraoji Deshmukh (Cong.—I), S.W. Dhabe (Cong.—S), Dr. Joseph Leon D'Souza (Cong.—I), Dr. (Sm.) Najam Heptulla (Cong.—I), Prof. N.M. Kamble (Cong.—I), Smt. Saraj Khaparde (Cong.—I), B.D.

Khobragade (R.P.I.—Khobragade), A.G. Kulkarani (Cong.—S), Govindrao Ramchandra Mahaisekhar (Cong.—I), Dr. Shanti G. Patel (Janata), N.K.P. Salve (Cong.—I), Dr. Rafiq Zakaria (Cong.—I), Vacant.

MANIPUR—1 :— Ng. Tompak Singh (Cong.—I)

MEGHALAYA—1 :— Alexander Warjri (Ind.).

NAGALAND—1 :— T.Aliba Imti (U.D.F.—Nagaland)

ORISSA—10

Jagadish Jain (Cong.—I), Dhaneswar Majhi (LD.), Harekrushna Mallick (Janata), Surendra Mohanty (Cong.—I), Shyam Sundar Mohapatra (Cong.—I), Narasingha Prasad Nanda (Cong.—S), Akshay Pande (Cong.—I), B.C. Pattanayak (Cong.—I), Patitpaban Pradhan (L.D.), Santosh Kumar Sahu (Cong.—I).

PUNJAB—7.

Sm. Amarijit Kaur (Cong.—I), harvendar Singh Hanspal (Cong.—I), Sat Paul Mittal (Cong.—I), Dr. Jajinder Kaur (AD). Harkrishan Singh Surjeet (CPM), Sardar Jagdev Singh Talwandi (AD), Sardar Gurucharan Singh Tohra (AD).

RAJASTHAN—10

Mohammed usam Arif (Cong.—I), Hari Shankar Bhabhra (BJP), bhim Raj (Congress—I), Swami Dinesh Chandra (Cong.—I), (Molana) Asrarul Haq (Cong.—I), Jaswant Singh (BJP), Sm. Ushi Khan (Cong.—S), Dhuleswar Meena (Cong.—I), Ram Niwas Mirdha (Cong.—I), R.P. Morarka (Janata).

SIKKIM—1 :— Leonard Soloman Saring (Cong.—I)

TAMIL NADU—18

P. Anbalagan (AIADMK), L. Ganesan (DMK), V. Gopalsamy (DMK), D. Herachand (AIADMK), A.P. Janardhanam (AIADMK), M. Kalyanasundaram (C.P.I.), U.R. Krishnan (AIADMK), Murasoli Maran (DMK), R. Mohanarangam (AIADMK), G.K. Moopnar (Cong.—I), M. Moses (Cong.—I), Dr. (Smt.) Sathiavani Muthu (AIADMK), M.S. Ramchandran (Cong.—I), D.R. Ramkrishnan (AIADMK), P. Ramamurti (CPM), Smt. Noorjehan Razack (AIADMK), Arra Sezhiyan (Janata), V. Venka (DMK).

TRIPURA—1 :— Smt. Ila Bhattacharya (CPM)

UTTAR PRADESH—34

Bhagwan Din (Cong.—I), Sundar Singh Bhandari (B.J.P.), Bhanu Pratap Singh (Ind.), G. C. Bhattacharya (Ind.), Dharmavir (Cong.—I), Dinesh Singh (Cong.—I), Smt. Haminda Habibullah (Cong.—I), Syed Ahmad Hashmi (Lok Tantrik—Lok Dal), Krishna Nand Joshi (Cong.—I), Khurshed Alam Khan (Cong.—I), Piarelal Urf Piarelal Talib Unnavi Kureel (Cong.—I), Lakhan Singh (B.J.P.), Asad Madani (Cong.—I), Satya Pal Malik (LD), Jagdish Prasad Mathur (B.J.P.), Kalnaj Mishra (BJP), Suresh Narain Mulla (Cong.—I), Narendra Singh (Cong.—I), K.C. Pant (Ind.), Narsingh Narain Pandey (Cong.—I), Sudhakar Pandey (Cong.—I), Kalpanath Rai (Cong.—I), Rameshwar Singh (LD), Ram Sewak Chaudhury (Cong.—I), Syed Sibte Razi (Cong.—I), Nageshwar Prasad Shahi (LD), Abdul Rehman Sheikh (LD), Dr. M.M.S. Siddhu (Janata), Dr. Rudra Pratap Singh (Cong.—I), P.N. Sukul (Cong.—I), Surendra Mohan (Janata), Shyam Lal Yadav (Cong.—I), Vacant, Vacant.

WEST BENGAL—16

Debendranath Barman (CPM), Prasenjit Barman (Cong.—I), Prof. Sourendra Bhattacharjee (R.S.P.), Amarprosad Chakraborty (F.B.) Sankar Ghose (Cong.—S), Arabinda Ghose (CPM), Dipendrabhusan Ghose (CPM), Dr. Phanindra Nath Hasda (Cong.—I), Sangdopal Lepcha (CPM), Santosh Mitra (CPM), Smt. Kanak Mukherjee (CPM), Smt. Purabi Mukhopadhyaya (Cong.—S), Makhan Paul (R.S.P.), Syed Sahabuddin (CPM), Vacant. Vacant.

ARUNACHAL PRADEESH—1 :— Ratna Tama (Cong.—I),

UNION TERRITORIES

DELHI—3

Charanjit Chanana (Cong.—I), Jagannathrao Joshi, (B.J.P.), Vacant

MIZORAM—1 :— Lalsawai (Cong.—1).

PONDICHERRY—1 :— V.P. Munusamy (AIADMK)

NOMINATED BY THE PRESIDENT—12

Dr. Malcolm S. Aadiseshia, B.N. Banerjee, Smt. Maragatham Chandrasekhar, Smt. Fatema Ismail, Pandurang Dharmaji Jadhav, Prof. Rasheeduddin Khan, Khushwant Singh, Dr. Lokesh Chandra, Bishambhar Nath Pande, Scato Swu, Dr. Ashima Chatterjee and Shivaji Ganesan

CENSUS OF INDIA 1981

The first Census of India was taken in the year 1872, but this was on the result of the census taken in various parts of India. Since 1881, India has an regular Census in every ten years. The 1981 Census represents the 12th Census of India are reckoned from the 1872 and 4th Census after Independence.

In the present Census Sex ratio has adverse to female. i.e. number of female per thousand males has generally been less than 1000.

Sex Ratio Census Year	1901-1981 Sex Ratio	Sex Ratio Census Year	1901-1981 Sex Ratio
1901	972	1941	945
1911	964	1951	946
1921	955	1961	941
1931	950	1971	930
		1981	935

Provisional Population total. Figures at a glance.
Population of India

Total	683,810,051
Males	353,347,249
Females	330,462,802

Decennial population growth 1971-1981

(i) *Absolute* 1,35,650,399

Percentage 24.75

Density of population —221 per Sq. Km.

Sex Ratio—935 females per 1000 males

Literacy rate —

Total	36.17 per cent
Males	46.74 per cent
Females	24.88 per cent

Notes : (i) While working out the density, the area, & population of Jammu & Kashmir have been excluded as comparable data are not available.

(ii) Literary rates exclude data of Assam & Jammu & Kashmir.

Literacy rates :—

Census Year	Persons	Males	Females
1901	5.35	9.83	0.60
1911	5.92	10.56	1.05
1921	7.16	12.21	1.81
1931	9.50	15.59	2.93
1941	16.10	24.90	7.30
1951	16.67	24.95	7.93
1961	24.02	34.44	12.95
1971	29.45	39.45	18.69
1981	36.17	46.74	24.88

At present India's position is among the four largest countries in the world's population estimated by the UN. World's population is 3,721 million.

1.	China	957 Million
2.	India	684 million
3.	U.S.S.R.	267 million
4.	U.S.A.	222 million

The area of India is 3.28 million Sq. Km. out of total world's area of 135.89 million Sq. Km.

States/Union Territories arranged in the order of Literacy ranking in 1981 Census and Comparison with 1971 Census.

Rank- ing 1981 (1)	States/Union Territories (2)	Literacy rate in 1981 (3)	Literacy rate in 1971 (4)	Percentage increase on literacy (5)
1.	Kerala	69.17	60.42	+14.48
2.	Chandigarh	64.68	61.56	+ 5.07
3.	Delhi	61.06	55.61	+ 9.80
4.	Mizoram	59.50	53.79	+10.90
5.	Goa, Daman & Diu	55.86	44.75	+24.83
6.	Lakshadweep	54.72	43.66	+25.33
7.	Pondicherry	54.23	46.02	+17.84
8.	Andaman & Nicobar Islands	51.27	43.59	+17.62
9.	Maharashtra	47.37	39.18	+20.90
10.	Tamil Nadu	45.78	39.46	+16.02
11.	Gujarat	43.75	35.79	+22.24
12.	Manipur	41.99	32.91	+27.59
13.	Nagaland	41.99	27.40	+53.25

14.	Himachal Pradesh	41.94	31.96	+31.23
15.	Tripura	41.58	30.98	+34.22
16.	West Bengal	40.88	33.20	+23.13
17.	Punjab	40.74	33.67	+21.10
18.	Karnataka	38.41	31.52	+21.86
19.	Haryana	35.84	26.89	+30.28
20.	Orissa	34.12	26.18	+30.33
21.	Sikkim	33.83	17.74	+90.70
22.	Meghalaya	33.22	29.49	+12.65
23.	Andhra Pradesh	29.94	24.57	+21.86
24.	Madhya Pradesh	27.82	22.14	+25.65
25.	Uttar Pradesh	27.38	21.70	+26.18
26.	Dadra & Nagar Haveli	26.60	14.97	+77.69
27.	Bihar	26.01	19.94	+30.44
28.	Rajasthan	24.05	19.07	+26.11
29.	Arunachal Pradesh	20.09	11.29	+77.95

**Provisional Population Totals
A Comparative Picture of the Population**

S. No.	States/Union Territories	Population in 1971 (and rank)	Total Population Population in 1981 (and rank)	Decennial growth rate (Percentage) 1961-1971	Density of population 1981 per Sq. Km.	Percentage to total population of India 1981
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	INDIA	548,159,652	688,810,051	+24.80	+24.75	221*
1.	Andhra Pradesh	43,502,708 (5)	53,403,619 (5)	+20.90	+22.76	194
2.	Assam (a)	14,625,152 (13)	19,902,826 (13)	+34.95	+36.09	254
3.	Bihar	56,353,369 (2)	69,823,154 (2)	+21.33	+23.90	402
4.	Gujarat	26,697,475 (9)	33,960,905 (10)	+29.39	+27.21	173
5.	Haryana	10,036,808 (15)	12,850,902 (15)	+32.23	28.04	291
6.	Himachal Pradesh	3,460,434 (18)	4,237,569 (18)	+22.04	+22.46	76
7.	Jammu & Kashmir (a)	4,616,632 (16)	5,981,600 (17)	+29.65	+29.57	NA
8.	Karnataka	29,299,014 (8)	37,043,451 (8)	+24.22	+26.43	193
9.	Kerala	21,347,375 (12)	25,403,217 (12)	+26.29	+19.00	654
10.	Madhya Pradesh	41,654,119 (6)	52,131,717 (6)	+28.67	+25.15	118
11.	Maharashtra	50,412,235 (3)	62,693,893 (3)	+27.45	+24.36	204
12.	Manipur	1,072,753 (20)	1,433,691 (20)	+37.53	+33.65	64
13.	Meghalaya	1,011,699 (21)	1,327,874 (21)	+31.50	+31.25	59
14.	Nagaland	516,449 (23)	773,281 (23)	+39.88	+49.73	47
15.	Orissa	21,944,615 (11)	26,272,054 (11)	+25.05	+19.72	169
16.	Punjab	13,551,060 (14)	16,669,755 (14)	+21.70	+23.01	331
17.	Rajasthan	25,765,806 (10)	34,102,912 (9)	+27.83	+32.36	100
18.	Sikkim	209,843 (28)	315,682 (28)	+29.38	+50.44	44
19.	Tamil Nadu	41,199,168 (7)	48,297,456 (7)	+22.30	+17.23	371
20.	Tripura	1,556,342 (19)	2,060,189 (19)	+36.28	+32.37	196
21.	Uttar Pradesh	88,341,144 (1)	110,858,019 (1)	+19.78	+25.49	377
22.	West Bengal	44,312,011 (4)	54,485,560 (4)	+26.87	+22.96	614
						1,97

S. No.	States/Union Territories	Total Population		Decennial growth rate		density of population 1981 per Sq. Km.	Percentage to total population of India 1981
		Population in 1971 (and rank)	Population in 1981 (and rank)	1961-1971	1971-1981		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
UNION TERRITORIES							
1.	Andaman & Nicobar Islands	115,133 (29)	188,254 (29)	+81.17	+63.51	23	0.03
2.	Arunachal Pradesh	467,511 (25)	628,050 (24)	+38.91	+34.34	7	0.09
3.	Chandigarh	257,251 (27)	450,061 (27)	+114.59	+74.95	39.48	0.07
4.	Dadra & Nagar Haveli	74,170 (30)	103,677 (30)	+27.96	+39.78	211	0.02
5.	Delhi	4,065,698 (17)	6,196,414 (16)	+52.93	+52.41	4178	0.09
6.	Goa, Daman and Diu	857,771 (22)	1,082,117 (22)	+36.88	+26.15	284	0.16
7.	Lakshadweep	31,810 (31)	40,237 (31)	+31.95	+26.49	1257	0.01
8.	Mizoram	332,390 (26)	487,774 (26)	+24.93	+46.75	23	0.07
9.	Pondicherry	471,707 (24)	604,136 (25)	+27.81	+25.07	1228	0.09

N.A. : Stands for not available.

(a) : Projected figures for 1981.

While working out the density of India, Jammu & Kashmir has been excluded as comparable figures of area and population are not available for that State.

Census of India, 1981 : Population : Rural and Urban

	Total	Rural	Urban
INDIA	685,184,692	525,457,335	159,727,357
Andra Pradesh	53,549,673	41,062,097	12,487,576
Assam	19,896,843	17,849,657	2,047,186
Bihar	69,914,734	61,195,744	8,718,900
Gujarat	24,085,799	23,484,146	10,601,653
Haryana	12,922,618	10,095,231	2,827,387
Himachal Pradesh	4,280,818	3,959,847	325,971
Jammu & Kashmir	5,987,389	4,726,098	1,260,403
Karnataka	37,135,714	26,406,108	10,729,606
Kerala	25,453,680	20,682,405	4,771,275
Madhya Pradesh	52,178,844	41,592,385	10,586,459
Maharashtra	62,784,171	40,790,577	21,993,594
Manipur	1,420,953	1,045,493	375,460
Meghalaya	1,335,819	1,094,486	241,333
Nagaland	774,930	654,696	120,234
Orissa	26,370,271	23,259,984	3,110,287
Punjab	16,788,915	12,141,158	4,647,757
Rajasthan	34,261,862	27,051,354	7,210,508
Sikkim	316,385	265,301	51,084
Tamil Nadu	48,408,077	32,456,202	15,951,875
Tripura	2,053,058	1,827,490	225,568
Uttar Pradesh	110,862,013	90,962,898	19,899,115
West Bengal	54,580,647	40,133,926	14,446,721
UNION TERRITORIES			
Andaman & Nicobar Islands	188,741	139,107	49,634
Arunachal Pradesh	631,839	590,411	41,428
Chandigarh	451,610	28,769	422,841
Dadra & Nagar Haveli	103,676	96,762	6,914
Delhi	6,220,406	452,206	5,768,200
Goa, Daman & Diu	1,086,730	734,922	351,808
Lakshadweep	40,249	21,620	18,629
Mizoram	493,757	371,943	121,814
Pondicherry	604,471	288,424	316,047

Population and Number of Literates 1981 &

Sl. No.	INDIA/STATES/ UNION TERRITORIES	Total Population Persons	1981 Males	Females	Literate Persons
(1)	(2)	(3)	(4)	(5)	(6)
	INDIA	683,810,051	353,347,249	330,462,802	237,991,932
1.	Andhra Pradesh	53,403,619	27,035,531	26,268,088	15,989,266
2.	Assam	19,902,826	10,472,712	9,430,114	—
3.	Bihar	69,823,154	35,865,467	33,967,687	18,163,410
4.	Gujarat	33,960,905	17,484,540	16,476,365	14,858,075
5.	Haryana	12,850,902	6,846,153	6,004,749	4,605,641
6.	Himachal Pradesh	4,237,569	2,131,312	2,106,257	1,777,209
7.	Jammu & Kashmir	5,981,600	3,062,200	2,919,400	—
8.	Karnataka	37,043,451	18,860,494	18,173,957	14,228,947
9.	Kerala	25,403,217	12,487,961	12,915,256	17,571,819
10.	Madhya Pradesh	52,131,717	26,856,752	25,274,965	14,502,063
11.	Maharashtra	62,693,898	32,342,115	30,352,783	29,695,721
12.	Manipur	1,433,691	727,108	706,583	601,943
13.	Maghalaya	1,327,874	678,883	648,991	441,077
14.	Nagaland	774,281	414,231	359,050	324,700
15.	Orissa	26,272,054	13,253,523	13,018,531	8,964,625
16.	Punjab	16,669,755	8,840,234	7,829,521	6,791,547
17.	Rajasthan	34,102,912	17,749,282	16,353,630	8,201,615
18.	Sikkim	315,682	171,959	143,723	106,780
19.	Tamil Nadu	48,297,456	24,420,228	23,877,228	22,111,593
20.	Tripura	2,060,189	1,057,714	1,002,475	856,688
21.	Uttar Pradesh	110,858,010	58,780,640	52,077,379	30,358,013
22.	West Bengal	54,485,560	28,505,151	25,980,409	22,271,867
UNION TERRITORIES					
1.	Andaman & Nicobar Islands	188,254	106,889	81,365	96,520
2.	Arunachal Pradesh	628,050	335,941	292,109	125,185
3.	Chandigarh	450,061	254,208	195,853	291,091
4.	Dadra & Nagar Haveli	103,677	52,514	51,163	27,578
5.	Delhi	6,196,414	422,550	773,864	3,783,611
6.	Goa, Daman & Diu	1802,117	546,260	535,857	604,489
7.	Lakshadweep	40,237	20,367	19,870	22,014
8.	Mizoram	487,774	251,988	235,786	209,218
9.	Pondicherry	604,136	304,342	299,794	327,600

* Distribution of Population, Sex ratio, growth rate and population in States/Union Territories :

SL. No.	INDIA/State Union Territories	Population Persons	Male	1981 Females	Sex ratio ie. fem. per 1000 males	Density of population per Sq.Km.	Decennial growth rate of population	Sex Ratio			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
					1971	1981	1971	1981	1961-1971	1971-1981	
	INDIA	683,810,051	353,347,249	330,462,802	930	935	177*	221	+24.80	+24.75	935
1.	Andhra Pradesh	53,403,619	27,035,531	26,368,088	977	975	158	194	+20.90	+22.76	975
2.	Assam	19,902,826	10,472,712	9,430,144	896	900	186	254	+34.95	+36.09	900
3.	Bihar	69,823,154	35,865,467	33,957,687	954	947	324	402	+21.33	+29.90	947
4.	Gujarat	33,960,905	17,484,540	16,476,365	934	942	136	173	+29.39	+27.21	942
5.	Haryana	12,850,902	6,846,158	6,004,749	867	877	227	291	+32.23	+28.04	877
6.	Himachal Pradesh	4,237,569	2,131,312	2,106,257	958	988	62	76	+23.04	+22.46	988
7.	Jammu & Kashmir	5,981,600	3,062,200	2,919,400	878	953	NA	NA	+29.65	+29.57	953
8.	Karnataka	37,043,451	18,869,949	18,173,957	957	963	153	193	+24.22	+26.43	963
9.	Kerala	25,403,217	12,487,961	12,915,256	1,016	1,034	549	654	+26.29	+19.00	1034
10.	Madhya Pradesh	52,131,717	26,865,752	25,274,956	941	941	94	118	+28.67	+25.15	941
11.	Maharashtra	62,693,898	32,341,115	30,352,783	930	939	164	204	+27.45	+24.34	939
12.	Manipur	1,433,691	727,108	706,583	980	972	48	64	+37.53	+33.65	972
13.	Meghalaya	1,327,874	678,883	648,991	942	956	45	59	+31.50	+31.25	956
14.	Nagaland	773,281	414,231	359,050	871	867	31	47	+39.88	+49.73	867
15.	Orissa	26,272,054	13,253,523	13,018,531	988	982	141	169	+25.05	+19.72	982
16.	Punjab	16,669,755	8,840,234	7,829,521	865	886	269	331	+21.70	+23.01	886
17.	Rajasthan	34,102,912	17,749,282	16,353,630	911	921	75	100	+27.83	+32.36	921
18.	Sikkim	315,682	171,959	143,723	863	836	30	44	+29.38	+50.44	836
19.	Tamil Nadu	48,297,456	24,420,228	23,877,228	978	978	317	371	+22.39	+17.23	789
20.	Tripura	2,060,189	1,057,714	1,002,475	943	948	148	196	+36.28	+32.37	948
21.	Uttar Pradesh	110,858,019	58,780,640	52,077,379	879	886	300	377	+19.78	+25.49	886
22.	West Bengal	54,485,560	28,505,151	25,980,409	891	911	499	614	+26.87	+22.96	911

SL. No.	INDIA/State Union Territories	Population Persons	Male	1981 Females	Sex ratio i.e.fem.per 1000 males 1971 1981	Density of population per Sq.Km. 1971 1981	Decennial growth rate of population 1961-1971 1971-1981	Sex Ratio			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
UNION TERRITORIES											
1.	Andaman & Nicobar Islands	188,254	106,889	81,365	644	761	14	23	+81.17	+63.51	761
2.	Arunachal Pradesh	628,050	335,941	292,941	861	870	6	7	+38.91	+34.34	870
3.	Chandigarh	450,061	254,208	195,853	749	770	2257	3948	+114.59	+74.95	770
4.	Dadra & Nagar Haveli	103,677	52,514	51,163	1,007	974	151	211	+27.96	+39.78	974
5.	Delhi	6,196,414	3,442,550	2,773,864	801	810	2742	4178	+52.93	+52.04	810
6.	Goa, Daman & Diu	1,082,117	546,260	535,857	989	981	225	284	+36.88	+26.15	981
7.	Lakshadweep	40,237	20,367	19,870	978	976	994	1257	+31.95	+26.49	976
8.	Mizoram	487,774	251,988	235,786	946	936	16	23	+24.93	+46.75	936
9.	Pondicherry	604,136	304,342	299,794	989	985	959	1228	+27.81	+28.07	985

Literacy rates for 1971 and 1981 by Sex

population	1981		Percentage of Literates to total population				
	1981			1981			
	Males (7)	Females (8)	Persons (9)	Males (10)	Females (11)	Persons (12)	Males Females (13) (14)
158,837,215	79,154,717		29.45	39.45	16.69	36.17	46.74 24.88
10,578,388	5,410,878		24.57	33.18	15.75	29.49	39.13 20.52
—	—		28.15	36.63	18.63	—	— —
13,551,763	4,611,674		19.94	30.64	8.72	26.01	37.78 73.58
9,534,470	5,223,605		35.79	46.11	24.75	43.75	54.53 32.31
13,271,047	334,602		26.89	37.29	41.89	35.84	47.26 22.23
1,115,973	661,228		31.96	43.19	20.23	41.94	52.36 31.39
—	—		18.58	26.75	9.28	—	— —
9,171,677	5,057,270		31.52	41.62	20.97	38.41	48.61 27.83
9,266,609	8,327,210		60.42	66.62	54.31	69.17	74.03 64.48
10,574,919	3,927,144		22.14	32.70	10.92	27.82	39.38 15.54
19,046,936	10,648,758		39.18	51.04	26.43	47.37	58.89 35.08
385,123	216,820		31.91	46.04	19.53	41.99	52.97 30.69
251,056	190,021		29.39	34.12	24.56	33.22	36.98 29.28
203,643	121,057		27.40	35.02	18.65	41.99	49.16 33.78
6,216,037	2,748,588		26.18	38.29	13.92	34.12	46.90 21.11
4,118,415	2,673,132		33.67	40.38	25.90	40.74	46.59 34.14
6,350,945	1,850,670		19.07	28.74	8.46	24.05	35.78 11.32
75,066	31,714		17.74	25.37	8.90	33.83	43.65 22.07
13,965,132	8,146,461		39.46	51.78	26.86	45.78	57.90 34.12
539,932	316,756		30.98	40.20	21.19	41.58	51.05 13.60
22,845,887	7,512,126		21.70	31.50	10.55	37.38	38.87 14.42
14,391,808	7,880,059		33.20	42.81	22.42	40.88	50.49 10.33
62,470	34,050		43.59	51.64	31.11	51.27	58.44 41.85
94,002	42,183		11.29	17.82	3.71	20.09	27.98 11.02
174,953	116,138		61.56	66.35	54.35	64.68	68.82 59.30
19,007	8,571		14.97	22.15	7.84	26.60	36.19 16.75
2,325,804	1,457,807		55.61	63.71	47.75	61.06	67.06 52.56
353,832	250,657		44.75	54.31	35.09	55.86	64.77 46.78
13,233	8,785		43.66	56.48	30.56	54.72	64.97 44.21
166,296	123,945		53.79	60.49	46.71	59.50	65.99 52.75
194,792	132,808		46.02	57.29	34.62	54.23	64.00 44.30

Population by Educational Level 1981*

	Number of which main workers			
		Total of which Urban		Total of which Urban
Total population (Mn)	665.0	157.7	225.5	46.1
Literates (mn)				
Total	241.0	90.5	94.6	32.1
Primary	75.9	24.0	30.7	7.5
Middle	42.4	17.1	17.7	6.1
Secondary/Matriculation	28.0	15.0	14.6	7.3
Higher Secondary+	9.8	6.0	4.3	2.4
Non-tech. Diploma	0.22	0.09	0.15	0.05
Tech. Diploma	1.14	0.64	0.86	0.48
Graduate and above	9.5	7.0	6.1	4.4
Others + of which	74.0	20.7	20.2	3.8
Graduate & above (Mn)	9.49	6.98	6.09	4.42
Non-tech. graduate	NA	4.66	NA	2.74
Non-tech. P.G.	NA	1.22	NA	0.82
Tech. graduate & P.G.	NA	1.10	NA	0.86
Engineering & Technology	NA	0.35	NA	0.31
Medicine	NA	0.23	NA	0.19
Agriculture & Dairy	NA	0.03	NA	0.02
Veterinary	NA	0.01	NA	0.01
Teaching	NA	0.47	NA	0.34
Others	NA	0.01	NA	—

* Based on 5 per cent sample data of the 1981 Census & excludes Assam.

+ Include Intermediate/Pre-University

+ 'Literates' with other formal or non-formal education who are able to "read and write understanding in our language".

COMMERCE

TRENDS IN INDIA'S FOREIGN TRADE

According to the updated provisional figures of foreign trade, India's exports during 1987-88 amounted to Rs. 15,741.23 crores which are 26.4% higher as compared to export figures of Rs. 12,452.36 crores in the year 1986-87. At the same time India imports during 1987-88 at Rs. 22,398.97 crores 10.9 higher as compared with the level of Rs. 22,398 crores in 1986-87. As a result, there was a substantial decline of Rs. 1090.55 crores in the trade deficit from Rs. 7,748.29 crores in 1986-87 to Rs. 6657.74 crores during 1987-88. The export target set for the year 1986-87 at Rs. 12,203 crores has been exceeded by Rs. 364 crores.

INDIA'S FOREIGN TRADE

(Value : Rs. Crores)

Year	Export	% age increase over the previous year	Imports	% increase over the previous year	Balance of trade
1983-84	9,770.71	+ 11.0	15,831.46	+ 10.8	6060.75
1984-85	11,743.68	+ 20.2	17,134.20	+ 8.2	5390.52
1985-86	10,894.59	-7.2	19,657.69	+14.7	-8763.10
1986-87(PR)	12,452.36	+14.3	20,200.65	+2.8	-7748.29
1987-88(P)	15,741.23	+26.4	22,398.97	+10.9	-6657.74

P : Provisional

PR : Provisional Reversal

Source : DGCI & S - Calcutta

According to the provisional figures available upto December 1988, India's total exports during the first 9 months of the financial year i.e. April-December, 1988 at Rs. 13926.68 crores showed an increase of 24.4% over the figure of Rs. 11197.41 crores for the corresponding period of the previous year. Imports during the same period in 1988-89 at Rs. 20528.28 crores were higher by 27.4% as compared to Rs. 16110.78 crores over the corresponding period in 1987-88.

During 1987-88, as compared to 1986-87, the items which registered an increase include Gems and Jewellery, Ready made garments, Cotton fabrics, yarn, made ups etc., Engineering goods, Leather & Leather manufactures, Chemicals and related products, Petroleum Products, Rice, Carpets, Handicrafts, Tea and Spices. The items which registered a decline include coffee, ores and minerals, tobacco unmanufactured, wool and woolen manufactures, cotton raw, coir and coir manufactures. During the first six months of the current financial year i.e. April-September, 1988, as compared to April-September 1987, the export items which registered an increase include Gems & Jewellery, Engineering goods, Chemicals and related products, Leather and Leather manufactures, Ready made garments, Ores and minerals, Carpets, Handicrafts, Marine Products, Man-made

textiles, Tea and Rice. The items which registered a decline included Petroleum products, Cotton Raw, Coffee, Wheat, Tobacco, Cashew-nuts including CNSL.

The performance of exports in respect of select commodities during 1987-88 and first six months of 1988-89 is reviewed in the following paragraphs.

Tea

The export of tea during 1987-88 at Rs. 592.37 crores as compared to Rs. 576.78 crores during 1986-87, showed a rise of 2.7 per cent in value terms. In quantity terms, the figures for 1987-88 were 197.3 million kg. as against 192.4 kg. in 1986-87. India topped the lists of the producing as well as exporting countries. The production in 1987 was higher by 48 million kg.

According to the provisional data made available for the first six months of the current year i.e. April-September 1988, the exports of tea at Rs. 280.85 crores were higher by 5.1% in the corresponding period of the previous year. In quantity terms, also 88.3 million kg. of tea were exported during April-September 1988 as compared to 82.7 million kg. during the same period last year.

The Government is laying greater emphasis in marketing of tea in value added form in order to earn more foreign exchange. The scope of increasing the volume of exports, is also being explored.

Coffee

The export of coffee during 1987-88 was valued at Rs. 263.22 crores which showed a decline of 11.3 percent as compared to Rs. 296.70 crores during 1987-88, 88.7 million kg. of coffee was exported against 73.4 million kg. during 1986-87 thereby showing an increase of 20.8 percent in quantity terms.

In the first six months of 1988-89 i.e. April-September 1988, exports of coffee amounted to Rs. 140.88 crores as compared to Rs. 166.74 crores as compared to Rs. 166.74 crores during April-September 1987. In quantity terms also export of coffee declined from 56.5 million kg. during April-September 1987 to 41.7 million kg. of coffee exported during April-September, 1988.

International Coffee

Organisation allocates quota for coffee exports to member countries. The export quotas which were suspended by the ICO in 1986 were reintroduced in October 1987. India was allotted a quota of 46,782 tonnes for October 87-September 88 period. The quota allotted for the coffee year 1988-89 is 51596 tonnes which is 9.65 percent of the total quota. To encourage exports, coffee has been exempted from the purview of export duty with effect from 26th August, 1988. The Minimum Release Price (MRP) has been revised in October, 1988. To boost export of value added items like instant coffee, the Government is offering Cash Compensatory Support, and Import replenishment on exports of instant coffee.

Rice

During 1987-88 exports of rice were of the order of Rs. 324.57 crores which was 64.5 percent higher than Rs. 197.33 crores in 1986-87. In quantity terms, during 1987-88, 371.6 thousand tonnes of rice were exported against 248.3 thousand tonnes in 1986-87. During the first six months of 1988-89, rice worth Rs. 155.06 crores was exported showing an increase of 6.5 percent over the exports of Rs. 145.55 crores during the corresponding period of 1987-88. In quantity terms 189.2 thousand tonnes were exported in April-September 1988 as compared to 178.6 thousand tonnes in April-September 1987.

Spices

During 1987-88 export of spices was of the order of Rs. 309.29 crores which was higher by 10.8 percent as compared to Rs. 279.03 crores during 1986-87. In quantity terms during 1987-88, 83.1 thousand tonnes of spices were exported as compared to 97.0 thousand tonnes in 1986-87. During the first six months of the current financial year i.e. April-September, 1988 this trend continued and spices valued at Rs. 155.70 crores were exported as compared to Rs. 146.60 crores during April-September 1987, thereby registering an increase of 6.2 per cent. In quantity terms 49.3 thousand tonnes of spices were exported in April-September 1988 as compared to 40.7 thousand tonnes in April-September, 1987.

Meat and Meat Products

During 1987-88 meat and meat products valued at Rs. 85.54 crores were exported as against Rs. 75.46 crores during 1986-87 thereby registering an increase of 13.4 percent. During the first six months of the current financial year meat and meat products valued at Rs. 39.01 crores were exports which was on par with exports of Rs. 39.04 crores during April-September, 1987.

Tobacco

During 1987-88 exports of tobacco unmanufactured were of the order of 60.7 thousand tonnes valued at Rs. 109.32 crores as against exports of 67.7 thousand tonnes valued at Rs. 145.36 crores during 1986-87 thereby showing a marked decline of 25.1 percent in value terms. During April-September 1988 also this decline persisted. Against exports of 47.9 thousand tonnes valued at Rs. 89.15 crores in April-September, 1987, only 28.6 thousand tonnes valued at Rs. 64.82 crores were exported during April-September 1988 showing a decline of 27.3 percent in value terms.

The main reason for decline in exports of unmanufactured tobacco was less off-take by traditional buyers like UK, USSR and GDR during 1987-88. Again because of shortfall in production and heavy competition in market for domestic manufacturers, exporters were unable to procure large quantities of tobacco for export.

Value added items of Tobacco like bidis, cigarettes are also exported. During 1987-88 these exports were of the order of Rs. 25.24 crores in value terms. This was less by 36.8 percent as compared to exports of these items in the corresponding period of the previous year. As against exports to the tune of Rs. 14.40 crores in April-September, 1987, exports worth Rs. 11.43 crores were effected during April-September 1988 registering a decline of 20.6 percent.

Cashew Kernels

During 1987-88 exports of cashew kernel incl. CNSL was of the order of Rs. 306.70 crores which was less by 6.4 per cent as compared to Rs. 327.55 crores during 1986-87. In quantity terms export figures were 36.1 thousand tonnes for 1987-88 as compared to 43 thousand tonnes in 1986-87. The fall in exports was due to the fact that Brazil had a bumper crop of cashew nuts resulting in large supplies to USA. Recent entry of Mozambique and Tanzania into cashew market as well as competition from lower priced almonds also contributed to fall in our exports.

During the first six months of the current financial year 1988-89 exports of cashew kernels (including CNSL) showed a marked decline as compared to the

corresponding period of the previous year. During April-September 1988 exports of cashew kernels valued at Rs. 153.99 crores was less by 27.4 percent as compared to exports valued at Rs. 212.23 crores in April-September 1987. In quantity terms these figures were 21.3 thousand tonnes in April-September 1988 as compared to 24.8 thousand tonnes in April-September, 1987.

Oil Cakes

During 1987-88 exports of oil cakes at Rs. 173.28 crores showed a decline of 8.7 percent as compared to Rs. 189.77 crores in 1986-87. In quantity terms, 684.2 thousand tonnes were exported during 1987-88 as against 1044.6 thousand tonnes in 1986-87.

During April-September 1988, however, there was only a negligible decline in exports of this item as compared to the corresponding period of the previous year. During April-September 1988, exports of oil cakes were valued at Rs. 79.77 crores compared to Rs. 80.14 crores during April-September 1987. In quantity terms in fact it, however, showed a marginal increase. As against 307.9 thousand tonnes exported during April-September 1987, 308.6 thousand tonnes were exported during April-September 1988.

Sugar

On account of domestic considerations, the export of sugar has been kept in abeyance since June 1984. The exports were primarily against the EEC and U.S. quotas where India received preferential treatment. The export of sugar in 1987-88 declined to Rs. 0.76 crore in 1987-88 from Rs. 1.44 crores in 1986-87. During April-September 1988 sugar valued at Rs. 0.59 crore were exported as against Rs. 0.24 crore in April-September 1987.

Marine Products

The exports of marine products showed a decline during 1987-88 as compared to 1986-87. During 1987-88 exports of marine products were of the order of Rs. 525.11 crores which was less by 2.6 percent as compared to Rs. 538.97 crores during 1986-87. This declining trend reversed in the first six months of 1988-89 i.e. April-September 1988. Marine product exports valued at Rs. 290.63 crores were more by 12.6 per cent as compared to Rs. 258 crores during the corresponding period of the previous year.

For increasing production, the Marine Products Export Development Authority has set up two commercial prawn hatcheries, one in Orissa and other in Andhra Pradesh with the technical collaboration from abroad. Steps are also initiated for setting up of another hatchery in West Bengal. The Marine Products Export Development Authority, besides continuing operating schemes for promotion of deep-sea fishing in 1987-88, also intensified efforts to promote brackish water shrimp farming.

Ores and Minerals

The main items of India's exports in this category are iron ore, manganese ore, chrome ore and mica. Iron ore is, however, most important. The exports of iron ore during 1987-88 valued at Rs. 542.76 crores were less by 0.7 per cent compared to Rs. 546.61 crores during 1986-87. In quantity terms, exports of iron ore amounted to 28.3 million tonnes in 1987-88 as against 28.7 million tonnes in 1986-87.

However, this trend was reversed during April-September 1988 when iron ore valued at Rs. 282.67 crores was higher by 12.6 per cent as against Rs. 250.99 crores during April-September 1987. Japan continued to be the largest market for Indian iron-ore. Depressed market conditions, severe competition and lower lifting by our major importers led to fall in exports in the past. However, the market has strengthened in recent months.

India exported mica worth Rs. 23.18 crores in 1987-88 as compared to Rs. 19.56 crores in 1986-87. In quantity terms it amounted to 33.9 million kg. in 1987-88 and 19.9 million kg. in 1986-87. During the first six months of the current financial year i.e. April-September, 1988, mica valued at Rs. 14.81 crores was exported which was marginally higher than Rs. 11.62 crores during April-September 1987. In quantity terms, 24.3 million kg. mica was exported during April-September 1988 as compared to 18.4 million kg. during April-September 1987.

Mica Trading Corporation of India Limited (MITCO) a subsidiary of M. M. T. C, is a canalising agency for exports of processed mica. The Corporation has been laying emphasis on setting up mica based industries. While some projects are on anvil, a Micromised Mica Powder Plant and Silverised Mica and Mica Capacitor Plant have been functioning and their products are being exported.

Leather and Leather Manufacturers

Exports of leather and leather manufactures including leather foot wear, travel goods and garments have been showing an increasing trend in the recent years. During 1987-88 these exports amounted to Rs. 1148.52 crores which were higher by 24.5 per cent over the 1986-87 figure of Rs. 922.41 crores. During the first six months of the current financial year i.e. April-September 1988 leather and leather manufactures valued at Rs. 695.63 crores were exported as against Rs. 491.31 crores during April-September 1987 thus showing an increase of 41.6 per cent.

In order to boost up exports of value added leather products various steps have been taken to facilitate an easy access to essential inputs to generate exportable surpluses and upgrade the quality of products. These include continued duty free import on OGL of hides and skins and leather, and concessional duties on import of machinery, raw materials and consumables required by this sector. Now major share of the exports from this sector constitutes manufactured products including shoe uppers, leather garments, accessories, etc.

Textiles

International trade in textiles is characterised by high levels of protection in the industrialised countries as well as severe competition among developing countries which are major exporters. Cotton fabrics, made-up articles of cotton and readymade garments constitute the major components of textile exports. Silk, woollen and man-made textiles are other sectors of this group. The bilateral textile agreements concluded by India with major importing countries have increased our access to markets abroad.

Cotton Fabrics, Yarn and Made Ups

Exports of cotton fabrics, yarn and made ups during 1987-88 increased by 66.9 per cent over 1986-87. These goods worth Rs. 1063.78 crores were exported in 1987-88 as compared to Rs. 637.25 crores in 1986-87. During the first six months of 1988-89 the same trend prevailed and goods valued at Rs. 503.51 crores

were exported during April-September, 1988 as compared to Rs. 466.33 crores during April-September, 1987.

Readymade Garments

The performance of readymade garments showed a rising trend during 1987-88. Exports of readymade garments amounted to Rs. 1792.06 crores showing an increase of 34.7 per cent over the 1986-87 figure of Rs. 1330.51 crores. During April-September 1988 garments valued at Rs. 879.78 crores, were exported as against Rs. 779.37 crores during April-September 1987.

Jute Manufactures

Jute manufactures valued at Rs. 242.82 crores were exported in 1987-88 which were less by 0.5 per cent as compared to Rs. 224.02 crores in 1986-87. However, this marginal decrease was offset with some recovery as jute manufactures valued at Rs. 114.18 crores were exported during April-September, 1988 which were 12.7 per cent higher as compared to Rs. 101.32 crores during April-September, 1987. Bangladesh, Thailand and China are the main competitors in this sector. In addition, Indian Jute Industry is confronted with severe competition from synthetic substitutes for all end use sectors except carpet backing cloth. Prices of jute goods turned unremunerative on account of inadequate demand and cost price disparity which aggravated the crisis, and a number of mills closed down. However, there was favorable turn from August, 1988 following the implementation of jute packaging reservation order. Prices of jute goods recovered and a number of mills reopened. Measures like increasing support price of raw jute were taken to increase production.

Gems and Jewellery

This sector has emerged a single largest export sector in India and an important contributor of foreign exchange. During 1987-88 Gems & Jewellery valued at Rs. 2613.50 crores were exported which were higher by 26.0 per cent as compared to Rs. 2074.31 crores in 1986-87. The exports during April-September 1988 were to the tune of Rs. 1845.42 crores which were 47.5 per cent higher than the exports valued at Rs. 1251.17 crores during April-September 1987. This impressive growth reflects the encouraging response of the industry to the liberalisation of import of machinery and equipment needed for that sector. The government has taken several import liberalisation measures in respect of equipment needed for manufacture. Other facilities and concessions were offered for the growth of exports in this sector. 132 items of machinery, tools and equipment needed for this industry have been placed under OGL. As an incentive to gold jewellery units set up in special 100% Export Oriented Complexes and Exports Processing Zones the value addition requirements have been modified. The percentage scale of wastage norms has also been liberalised by the financial institutions. This sector, identified as thrust sector, is doing well and efforts are made to sustain the present trend of growth.

Handicrafts

The main items of exports in this sector (excluding Gems & Jewellery) include Handmade carpets, Druggets, Artware of metals, Textiles hand printed, Wood ware, Shawls and scarfs, lohis and zari goods. Exports of handmade carpets

increased from Rs. 282.72 crores in 1986-87 to Rs. 391.43 crores in 1987-88 registering an increase of 38.5 per cent. During April-September 1988 exports of Handmade carpets valued at Rs. 214.73 crores were 30.7 per cent higher than exports valued at Rs. 164.24 crores in April-September 1987. Exports of other Handicrafts (works of Art) in 1987-88 valued at Rs. 248.38 crores were higher by 30.3 per cent as compared to Rs. 190.55 crores in 1986-87. During April-September 1988 exports of these items amounted to Rs. 167.26 crores which were higher by 56.3 per cent over the figure of Rs. 107.04 crores for April-September 1987.

Chemicals and Related Products

Chemicals and related products is a non-traditional area of exports, and consist largely of basic chemicals, pharmaceuticals, cosmetics and plastic products.

Exports of basic chemicals, pharmaceuticals, and cosmetics during 1987-88 amounted to Rs. 774.29 crores as compared to Rs. 545.88 crores during 1986-87 showing an increase of 41.8 per cent. During April-September 1988, exports of these goods amounted to Rs. 641.93 crores showing a phenomenal increase of 105.2 per cent over the corresponding figure of exports valued at Rs. 312.85 crores during April-September 1987.

Recognising the potential for growth of exports, basic chemicals is considered as a thrust sector for achieving quantum increase in exports during Seventh Five Year plan period.

The exports of Plastic & Linoleum Products during 1987-88 at Rs. 49.08 crores in 1987-88 were 31.4 per cent higher than the exports valued at Rs. 37.35 crores during 1986-87. During April-September 1988 exports of these goods amounted to Rs. 45.53 crores showing a remarkable increase of 170 per cent over the exports value at Rs. 16.82 crores during April-September 1987.

Engineering Goods

Engineering goods have been an important component in our export basket. Their exports suffered in previous years. However, in 1987-88 their exports had shown an increase of Rs. 26.5 per cent over 1986-87, as exports in 1987-88 were valued at Rs. 1433.04 crores, while in 1986-87 the exports were valued at Rs. 1433.04 crores, while in 1986-87 the exports were to the tune of Rs. 1132.73 crores. During April-September 1988 exports of these goods amounted to Rs. 961.78 crores which were higher by 58.5 per cent as compared to Rs. 606.89 crores during April-September 1987. Thus they have continued the marching trend.

During 1987-88 all the product groups showed better export performance. During the year and a half more than twenty new items were added to the list of export of engineering goods. It is decided to grant cash compensatory support on the export of pre-fabricated houses.

IMPORTS

India's total imports as per provisional figures for 1987-88 amounted to Rs. 22398.97 crores which were higher by 10.9 per cent over the imports valued at Rs. 20200.65 crores in 1986-87. Imports during April-September, 1988 at Rs. 13164.29 crores were higher by 26.6 per cent as compared to Rs. 10398.87 crores during the corresponding period of the previous year.

The trends in imports during 1987-88 reversed the trend witnessed in 1986-87. Bulk imports as a whole had shown an increase of Rs. 1410.30 crores during

1987-88. The major rise was in petroleum and petroleum products which rose by Rs. 1286.07 crores. Other main items of bulk imports which showed increase were edible oil by Rs. 308.08 crores, non-ferrous metals by Rs. 161.20 crores, paper, paper board and manufactures thereof by Rs. 63.28 crores and metalliferous ores and metal scrap by Rs. 54.35 crores. The bulk items which had shown decline in 1987-88 compared to 1986-87 were fertilisers manufactured by Rs. 323.60 crores, iron and steel by Rs. 176.50 crores and sugar by Rs. 31.13 crores.

The imports of precious and semi-precious stones increased by Rs. 498.69 crores. This increase was directly reflected in export of cut and polished diamonds. The imports of machinery as a group were higher by Rs. 867.43 crores. These imports were necessary to maintain higher levels of investment, production and technological upgradation. The imports under 'Others' a group of miscellaneous declined by Rs. 578.10 crores in 1987-88 compared to such imports in 1986-87.

The trend in imports during the first six months of 1988-89 (April-September) followed more or less the same pattern. Bulk imports as a whole had shown an increase of Rs. 1191.66 crores, as compared to the corresponding period of 1987-88. Among the bulk imports petroleum and petroleum products increased by Rs. 232.47 crores during April-September, 1988 as compared to April-September, 1987.

Imports of Cereal and Cereal preparations, fertilisers manufactured, Non-ferrous metals, Sugar, Edible oil and Iron and Steel had gone up considerably. These were necessitated to meet the essential requirements for consumption.

The imports of machinery rose from Rs. 2804.00 crores in April-September, 1987 to Rs. 3150.42 crores in April-September, 1988 registering a rise of 12.4 per cent and that of pearls, precious and semi-precious stones from Rs. 946.71 crores in April-September, 1987 to Rs. 1536.42 crores in April-September, 1988 showing a rise of 62.3 per cent.

The import of 'Others', a group of miscellaneous items, registered an increase of 22.4 per cent. The trends in imports of a few selected items/product groups are reviewed briefly below :

Crude Oil and Petroleum Products

The import of petroleum products during 1987-88 was of the order of 22.4 million tonnes valued at Rs. 4082.75 crores as compared to 18.5 million tonnes valued at Rs. 2796.68 crores, thereby showing an increase of 21.08 per cent in quantity and 46.0 per cent in value terms. This rise was largely due to rise in demand due to accelerated industrial activities in the country. The pattern of rise continued in the first six months of the current financial year. Imports during April-September, 1988 rose to Rs. 2105.20 crores from a level of Rs. 1872.73 crores during April-September, 1987. In terms of quantity these rose by 7.4 per cent.

Fertilisers

The import of fertilisers during 1987-88 amounted to Rs. 486.18 crores registering a decline of 37.1 per cent as compared to Rs. 773.54 crores during 1986-87. This decline was due to the marked decline in imports of manufactured fertilisers. This could be due to the drought conditions in 1987-88. However, the declining trend witnessed in 1986-87 and 1987-88 was reversed in first six months of 1988-89. During April-September, 1988 imports of fertilisers valued at Rs. 348.54 crores was higher by 71.2 per cent compared to Rs. 203.47 crores during the corresponding period of the previous year.

Edible Oils

The imports of edible oils in 1987-88 amounted to 1800.6 thousand tonnes valued at Rs. 920.04 crores as compared to 1415.5 thousand tonnes valued at Rs. 611.96 crores showing an increase of 27.2 per cent in quantity and 50.3 per cent in value terms. The imports in the first six months of 1988-89 were Rs. 509.97 crores as against Rs. 333.55 crores during the corresponding period of the previous year. These imports were necessitated due to drought condition particularly in the oil bowl of India—Saurashtra in Gujarat.

Iron and Steel

The imports of Iron and Steel during 1987-88 amounted to 2253.6 thousand tonnes valued at Rs. 1273.19 crores as compared to 2401.0 thousand tonnes valued at Rs. 1449.69 crores during 1986-87 showing a fall of 6.4 per cent in quantity and a decline of 12.2 per cent in value terms. During April-September, 1988 imports of Iron and Steel were of the order of 1387.9 thousand tonnes valued at Rs. 784.30 crores as compared to 955.3 thousand tonnes valued at Rs. 558.26 crores during April-September, 1987 registering an increase of 45.3 per cent in quantity and 40.5 per cent in value terms.

Non-ferrous Metals

Copper, zinc, aluminium, lead, tin and nickel are the important items of non-ferrous metals imported into India. According to the provisional data the import of non-ferrous metals/ imported into India. According to the provisional data the import valued at Rs. 576.11 crores during 1987-88 was higher by 38.9 percent as compared to Rs. 414.91 crores during 1986-87. This trend of increase continued in the first six months of 1988-89. During April-September, 1988 imports of non-ferrous metals amounted to Rs. 396.39 crores which were higher by 91.5 percent as compared to Rs. 207 crores during April-September, 1987.

Pearls, Precious and Semi-Precious Stones

The Diamond Industry in the country depends heavily on imports of rough precious and semi-precious stones for their requirement of raw material. In keeping with the trend of increased exports in Gems & Jewellery sector the imports of precious and semi-precious stones moved up from Rs. 1495.48 crores in 1986-87 to Rs. 1994.17 crores during 1987-88 showing an increase of 33.3 percent. This trend continued in 1988-89 as well. The imports of these items valued at Rs. 1536.42 crores in April-September, 1988 were higher by 62.3 percent as compared to Rs. 946.71 crores during April-September, 1987.

Capital Goods

The imports of capital goods largely represented by machinery and transport equipment increased by 16.5 percent in 1987-88 at an aggregate of Rs. 6135.62 crores as compared to Rs. 5268.19 crores during 1986-87. This trend continued during the period April-September, 1988. Imports of items under this group amounted to Rs. 3150.42 crores which were higher by 12.4 percent as compared to Rs. 2804.00 crores during April-September, 1987.

Chemicals and Chemical Materials

Organic and Inorganic chemicals, chemicals materials and pharmaceutical

products constitute the major components of imports under this category. As compared to decline of 4.9 percent in 1986-87, the import of Organic and Inorganic chemicals rose by 1.4 percent at Rs. 1050.52 crores during 1987-88 as compared to Rs. 1035.67 crores during 1986-87. This increasing trend continued in the first six months of 1988-89. During April-September, 1988 imports of Organic and Inorganic chemicals valued at 97.8 crores were higher by 97.8 percent compared to Rs. 458.96 crores during April-September, 1987.

DIRECTION OF INDIA'S FOREIGN TRADE

The trends in India's exports to and imports from different regions and sub-regions are outlined in the following tables. As regards export figures it should be mentioned that the figures in respect of regions and sub-regions do not include exports of crude oil from Bombay High and petroleum products to respective countries of consignment, but these are included in the grand total of exports. Hence, for the purpose of comparison the percentage share of different regions has been worked out on the basis of total exports to all regions (which exclude trade in crude oil and petroleum products) and not as proportion of grand total of exports.

Share of Asia & Oceania, Africa and America remained more or less same in 1987-88, as in 1986-87. While the share of West Europe increased that of East Europe decreased.

During 1987-88 Asia & Oceania accounted for 30.6 percent of India's total exports. It was followed by West Europe at 28.9 percent, America at 20.7 percent, East Europe at 17.2 percent and Africa at 2.5 percent.

The direction of India's trade remained more or less same in period April-September, 1988, with slight variation. During this period Asia & Oceania accounted for 31.5 percent of the total trade, followed by West Europe at 27.5 percent, America at 21.9 percent, East Europe at 16.4 percent and Africa at 2.7 percent.

On the import side, during 1987-88, compared to 1986-87 Asia & Oceania replaced West Europe as largest supplier of goods and accounted for 38.6 percent of total imports followed by West Europe 37.5 percent, America at 12.8 percent, East Europe at 8.0 percent and Africa at 3.1 percent.

During April-September, 1988 also same pattern continued. During this period, Asia & Oceania accounted for 38.1 percent of India's total imports, followed by West Europe at 35.8 percent, America at 14.6 percent, East Europe at 7.3 percent and Africa at 3.9 percent.

India's trade with some of the East European countries including U.S.S.R. are conducted on the basis of bilateral clearing arrangements in non-convertible Indian rupees. During 1987-88 India's exports to USSR increased to Rs. 1971.49 crores from Rs. 1867.20 crores in 1986-87 registering an increase of 5.6 percent. Exports to USSR during April-September, 1988 period were of the order of Rs. 1116.90 crores as compared to 988.09 crores, during the corresponding period of April-September, 1987 registering an increase of 13.0 percent. India's trade with East European countries and particularly USSR has diversified with more accent on manufactured goods.

In West Europe India's exports to E.C.M. countries during 1987-88 at Rs. 3957.30 crores registered an increase of 44.7 percent as compared to Rs. 2735.65 crores during 1986-87. This trend continued during April-September, 1988 when India's exports increased by 21.4 percent as compared to the corresponding period

of the previous year. India's imports from E. C. M. countries which increased by 25.0 percent in 1986-87 compared to 1985-86, further rose by 14.0 per cent in 1987-88. The imports during April-September, 1988 also showed an increase of 16.2 percent over the corresponding period of previous year.

Exports to North America showed a rise of 24.7 percent in 1987-88 as compared to 1986-87. Again, during April-September, 1988 also exports to North America showed an increase of 26.3 percent compared to the corresponding period of the previous year. Exports to USA went up by 24.6 percent in 1987-88 compared to 1986-87 from Rs. 2331.74 crores in 1986-87 to Rs. 2907.65 crores during 1987-88. During April-September, 1988 also exports to USA rose to Rs. 1759.46 crores from Rs. 1387.58 crores during the corresponding period in 1986-87, thereby registering an increase of 26.8 percent. Imports from North America showed a decline of 0.5 percent, from a level of Rs. 2341.45 crores in 1986-87 to Rs. 2330.56 crores in 1987-88. During April-September 1988, however this trend was reversed and imports from North America rose by 51.6 percent. Imports from USA in 1987-88 at Rs. 2024.97 crores showed an increase of 3.3 percent over imports worth Rs. 1961.88 crores during 1986-87. During April-September, 1988 imports from USA were to the tune of Rs. 1395.86 crores, registering an increase of 47.8 percent over Rs. 944.63 crores during the corresponding period of the previous year.

About 30 to 31 percent of India's exports go to the continent of Asia & Oceania; the share of ESCAP being 23.4 percent and that of Rest of Asia & Oceania 7.2 percent in 1987-88. Exports to ESCAP at Rs. 3531.68 crores were higher by 22.6 percent in 1987-88 as compared to Rs. 2879.82 crores in 1986-87. Repeating this trend India's exports to ESCAP rose from Rs. 1607.41 crores in April-September, 1987 to Rs. 2120.49 crores in April-September, 1988 registering an increase of 31.9 percent. India's imports from ESCAP region fell by 1.5 percent from Rs. 5066.45 crores in 1986-87 to Rs. 4989.46 crores in 1987-88. Reversing this trend, India's imports from ESCAP rose to 32.2 percent during April-September, 1988 period from Rs. 2234.30 crores in April-September, 1987 to Rs. 2953.81 crores during April-September, 1988. India's exports to Japan rose to Rs. 1614.92 crores in 1987-88 from Rs. 133.85 crores in 1986-87 registering an increase of 21.1 percent. The same trend was continued during April-September, 1988. Exports amounted to Rs. 971.22 crores registering an increase of 29.3 percent over exports worth Rs. 750.80 crores in April-September 1987. India imported goods worth Rs. 2119.62 crores in 1987-88 from Japan which were less by 17.2 percent compared to Rs. 2558.92 crores in 1986-87. However, this trend was reversed during April-September, 1988. India imported from Japan goods worth Rs. 1233.12 crores as compared to Rs. 1046.44 crores during the same period of last year showing an increase of 17.8 percent.

Exports to Iran rose by 91.3 percent, from Rs. 47.26 crores in 1986-87 to Rs. 138.63 crores in 1987-88. However, during April-September, 1988 it declined to Rs. 31.15 crores from Rs. 48.41 crores in April-September, 1987 registering a decline of 35.6 percent. Imports from Iran declined by 15.0 percent in 1987-88 as the imports declined from Rs. 140.53 crores in 1986-87 to Rs. 119.51 crores in 1987-88. However, during April-September, 1988 imports from Iran rose to Rs. 57.99 crores from Rs. 23.78 crores during the corresponding period of previous year. Among other important countries of the region to which our exports showed an increase during April-September, 1988 over the same period of previous year were Australia, Malaysia and Singapore. The countries from which imports registered an increase include Australia, Republic of Korea, Malaysia and Singapore.

Exports to the Rest of Asia & Oceania which comprises largely West Asia at Rs.

1080.74 crores in 1987-88 showed increase of 22.3 percent as compared to Rs. 883.56 crores during 1986-87. Exports to this region registered an increase of 13.4 percent in April-September, 1988 as compared to the corresponding period of the previous year. Imports from this region at Rs. 3650.52 crores in 1987-88 were 56.1 percent higher as compared to Rs. 2338.48 crores in 1986-87. During April-September 1988 also imports from this region rose by 22.7 percent compared to the corresponding period of the previous year. The important countries in respect of which exports increased in April-September, 1988 include UAE, while countries from which imports increased include Saudi Arabia and UAE.

Exports to Africa valued at Rs. 384.29 crores in 1987-88 were higher by 10.2 percent over the figure of Rs. 348.63 crores in 1986-87. During April-September, 1988, however, the exports were higher by 31.5 percent. Exports during this period rose to Rs. 233.48 crores from Rs. 177.51 crores in April-September, 1987. On the other hand India's imports from Africa valued at Rs. 687.37 crores in 1987-88 showed a decline of 22.6 per cent from Rs. 888.47 crores in 1986-87. However, this trend was reversed during April-Sep. 88. Imports from Africa during April-September, 1988 amounted to Rs. 519.80 crores which were higher by 105.5 percent over the figure of Rs. 252.99 crores during April-September, 1987.

ORGANISATIONAL SET-UP AND FUNCTIONS

The Department of Commerce in the Ministry of Commerce is responsible for the country's external trade and all such matter connected with it, such as, commercial relations with other countries, state trading, export promotion measures, and the promotion, development and regulation and certain export oriented industries and commodities. The Department of Commerce formulates policies in the sphere of foreign trade, in particular the import and export policy of the country. The Department is headed by a secretary, assisted by Additional Secretaries and a number of other senior officers.

Functions of the Ministry

The Ministry of Commerce is the primary Government agency responsible for the country's external trade, including commercial relations with the other countries, State Trading, various trade, promotional measures and development and regulation of certain export-oriented industries like plantation industries of tea, coffee, rubber, tobacco and cardamom. This Department is also responsible for formulation foreign trade policy and maintaining control over the country's exports and imports trade.

The Dept. of Textiles, is responsible for formulating policies regarding production, distribution and development of jute, jute products, handicrafts and all textiles, and wovens including handlooms, powerlooms and readymade garments and the industries relating to the production of silk and cellulosic fibres (nylon, polyester, etc.)

Organisational Set-Up of the Ministry

The Department of Commerce have a common Administration and General Division which deals with personnel and establishment functions and also allied matters such as Career Management, Vigilance and Security, Welfare and Public Relations.

Apart from the attached and subordinate offices of the Ministry there are a number of other organisations under its administrative control. These include advisory bodies, trade promotion institutions corporations, etc. The functions in these organisations are briefly indicated in the following paragraphs.

* *Chief Controller of Imports and Exports, New Delhi*—is responsible for the executions of the Government's policies relating to import and export.

* *Directorate General of Commercial Intelligence and Statistics, Calcutta*—is the primary agency for compilation and dissemination of statistical information and commercial intelligence.

* *Tariff Commission, Bombay*—is a statutory body, entrusted with the working of tariff policies, pricing and review of the progress of such industries as may be referred to by The Government from time to time.

Textile Commission, Bombay—is in charge of the development and regulation of all textile industries other than jute and coir.

Jute Commissioner, Calcutta—looks after the development of the jute industry in India.

* *Development Commissioner, Kandla Free Trade Zone, Gandhidham*—is responsible for the implementation and supervision of the Government for the establishment of a Free Trade Zone and for advising the Ministry on the selection and setting up of export-oriented industrial unit in the Zone.

* *Development Commissioner, Santa Cruze Electronic Export Processing Zone, Bombay*—is responsible for administration of the Zone established for 100 per cent export oriented units manufacturing electronics equipment and components in the zone.

* *Office of the Development Commissioner, Falta Export Processing Zone, Falta (West Bengal)*—The Office of the Development Commissioner, Falta Export Processing Zone (FEPZ) is responsible for administration, of the zone being established at Falta near Calcutta for 100 per cent export-oriented multi-product industrial units.

* *Office the Development Commissioner, Madras Export Processing Zone, Madras*—The Office of the Development commissioner, Madras Export Processing Zone (MEPZ) is responsible for administration of the Zone being established at Madras for 100 per cent export-oriented multi-product industrial units.

* *Office of the Development Commissioner, Cochin Export Processing Zone, Cochin*—The Office of the Development commissioner, Cochin Export Zone (CEPZ) is responsible for administration of the Zone being established at Cochin for 100 per cent export oriented multi-product industrial units.

* *Office of the Development Commissioner, Noida Export Processing Zone, Noida (Uttar Pradesh)*—The Office of the Development Commissioner, Noida Export Processing Zone (NEPZ) is responsible for administration of the Zone being established at Noida for 100 per cent export oriented multi-product industrial units.

* *All India Handloom Board, Bombay*—advises Government generally on problems of the handloom industry.

* *All India Handicrafts Board, New Delhi*—advises Government on measures to be taken for the development and exports of handicrafts and assists the State Government in planning and executing development schemes.

* *Custodian of Enemy Properties, Bombay*—The Custodian of Enemy property required to register Indian claims against Pakistan in respect of assets of Indian nationals in Pakistan taken over by Government of Pakistan.

* *Pay and Accounts Office*—is responsible for the payment of claims, accounting of transactions and other matters.

Board of trade—is an advisory body of the Ministry, now consisting of 41 members drawn from the top ranks of trade and industry, economists, and Government representatives with the Minister of Commerce as its Chairman. The

Board was constituted on May 11, 1962. The Board of Trade concerns itself mainly with problems and policies relating to the development of the country's foreign trade and makes recommendations to Government from time to time.

**Central Advisory Council on Trade*—was set up in place of Export-Import Advisory Council, for a period of two years, beginning from January 1, 1968. It was constituted for a period of two years with effect from 1st January, 1970. It was constituted with the Minister of Commerce as its chairman. It provides representation to some of the principal commercial and industrial organisation, commodity boards, research and development organisation, Reserve Bank of India, Export Credit and Guarantee Corporation, members of the Parliament and other non-official and officials. It reviews the performance of the country's economy in its commercial aspects including marketing and assistance.

Zonal Export-Import Advisory Committee—Regional Advisory Committees had been constituted at Bombay, Calcutta, Madras, New Delhi, Ernakulam and Panaji (Goa) in July, 1966 for a term of two years. On the expiry of the term of the above Committees, it was decided to replace them by Zonal Export-Import Advisory Committees located at Bombay, Calcutta, Madras and New Delhi. The reconstituted Zonal Committees which came into being with effect from 1st July, 1968 are intended to cover Western, Eastern, Southern and Northern Zones respectively. The terms of reference of each Committee are—

(a) To consider difficulties, if any experienced by trade and industry in the operation of the prevailing import and export policies and procedures ; (b) To consider difficulties experienced by exporters in the matter of custom clearance, shipping, credit insurance and export inspection, and to suggest measures for removal of such difficulties ; and (c) To suggest improvement in the methods of working, and public relations of the Import and Export Trade Control Organisation and other Government department concerned with trade and industry.

**Export Inspection Council, Calcutta*—is a statutory board set up in January 1967 to adopt measures for the introduction and enforcement of quality control and compulsory preshipment inspection.

**Indian Institute of Foreign Trade, New Delhi*—is an autonomous organisation set in April 1963 for (i) Training of personnel in modern technique of international trade ; (ii) Organising research in problems of foreign trade ; (iii) Organisation of marketing research, area surveys, commodity survey and market surveys, and (iv) Dissemination of information arising from its activities relating to research and market studies, etc.

**Indian Institute of Packaging, Bombay*—registered in May 1966 (i) to undertake research on raw materials for the packaging industry ; (ii) to keep in step with the international development in the field of packaging ; (iii) to organise training programmes on packaging technology ; (iv) stimulate consciousness of the need for good packaging ; and (v) to organise consultancy service for the industry.

**Export Promotion Councils*—with a view to securing active association of growers, producers and exporters in the drive for export promotion, the Ministry has set up 11 Export Promotion Council for important groups of commodities, namely, cotton textiles, Silk and Rayons, Plastics and Lenoleum, Cashew, Tobacco, Sport-Goods, Chemicals and Allied Products, Basic Chemicals, Pharmaceuticals and Soaps, shellac, Leather, Finished Leather and Leather Manufactures, Mica, Spices, Marine Products, Processed Foods, Engineering Goods, Wool and Woollen Goods, Handloom and Gems and Jewelleries. The Councils perform both advisory and executive functions.

***Commodity Boards**— There are 5 commodity Boards attached to the Ministry for promoting tea, coffee, rubber, spices and tobacco. These Boards are statutory bodies and are responsible for production as well as export of the respective commodities.

***Indian Council of Arbitration, New Delhi**— was set up in 1965. Its main object is to promote arbitration as a means of settling commercial disputes.

***Marine Products Export Development Authority, Cochin**— is responsible for development of marine products industry with special reference to exports.

***Trade Fair Authority of India, New Delhi**— participates in international trade fair, holds Indian exhibitions abroad, organises exhibitions, fairs and also organises commercial publicity through mass media.

***Trade Development Authority, New Delhi**— has been set up in July, 1970 with Headquarters in New Delhi. The primary object of the authority is to induce and organise entrepreneurs, largely in the medium and small scale, to develop their individual export capabilities.

***Federation of Indian Export Organisations, New Delhi**— The Federation is looking after the work of assisting in the development of export promotion of facilities of a common nature in a co-ordinated manner.

***Agricultural and Processed Food Products Export Development Authority (APFDA), New Delhi**— This authority reviews as the focal point for agricultural exports, particularly the marketing of processed foods in value added forms.

CORPORATIONS— The Ministry has set up the following eight Corporations for trade promotions.

State Trading Corporation of India— See Index.

Projects and Equipments Corporations of India— was registered on 21st April, 1971 as a new wholly-owned subsidiary of the State Trading Corporation of India. It took over the business of the former Engineering and Railway Equipment Divisions of the STC.

Cashew Corporation of India— was incorporated in August 1970 as a wholly-owned subsidiary of the STC with the objective, inter alia, of ensuring uninterrupted supply of imported raw nuts at fair price to the export oriented industry.

Handicrafts and Handlooms Exports Corporation of India— is a subsidiary of the State Trading Corporation and has been entrusted with task of export promotion of handicrafts and handlooms products (see Index).

Exports Credit and Guarantee Corporation— Function of this Corporation is to promote India's exports by offering credit insurance and guarantee.

National Textiles Corporation— was registered as a Private Limited Company in April 1968 with an authorised capital of Rs. 10 crores. The main functions of the Corporation is to manage the textile mills which may be taken over by Government and will set up new textiles mills.

Minerals and Metals Trading Corporation of India— was incorporated on September 26, 1963 and started functioning on October 1, 1963 to devote concentrated attention to exports, planning and development and mineral ores and imports of metals. Its authorised capital is Rs. 5 crores.

Mica Trading Corporation of India— is a wholly owned subsidiary of the MMTC. It handles exports of mica.

State Chemicals and Pharmaceuticals Corporation of India— is engaged in the export-import trade in chemicals, drugs and pharmaceuticals.

Cotton Corporation of India— The import trade in cotton was canalised through this corporation with effect from 15th Sep. 1970.

Tea Trading Corporation of India— was registered on 21st Dec. 1971, in Calcutta with an authorised share capital of Rs. 5 crores and paid-up capital of

Rs. 25 lakhs. The Corporation will attempt to market the tea mainly in packs in India and abroad. It will engage in the trading and marketing of tea in other forms also, such as blended, instant and green tea and thus help in the diversification of export product and increasing the overall foreign exchange realisation. In the course of time, the Corporation will establish its blending and packaging units in India and abroad.

Spices Trading Corporation Limited—(earlier Cardomom Trading Corporation Limited now re-named as Spices Trading Corporation Limited with effect from 3.8.87) was incorporated 23rd December, 1982. The actual trading operation commenced from September, 1983. The company was registered in Bangalore to carry on domestic and international trade in spices and its products and to support, protect, maintain, increase and promote the production of spices and its products as also their sale and export.

Jute Corporation of India—was registered on 2nd April 1971, for undertaking purchase and sale of raw jute and jute goods.

Central Cottage Industries Corporation of India—was incorporated on 1st April 1976 to take over the Central Cottage Industries Association. The authorised capital of the Corporation is Rs. 1 crore and paid-up capital is Rs. 50 lakhs.

Indian Motion Picture Export Corporation—was registered in Bombay on September 19, 1963. Its main objectives are to purchase, market, export and exhibit films and also to develop and maintain marketing and distributing Indian film abroad (see Index).

Marketing Development Fund—was established in July 1963 for grants-in-aid to Export Promotion Councils and other Organisations for the development of export and meeting the expenditure on export promotion schemes and projects for development of foreign markets for Indian products.

Joint Ventures abroad—At the end of December 1988, 179 joint ventures were in production operation, and 152 were in various stages of implementation in different countries. Indian Joint Venture are dispersed over 37 countries. The Joint Ventures are concentrated in Malaysia, Sri Lanka, Singapore, Nigeria, U. K. Indonesia, Thailand, U. A. E., Nepal, Kenya, U. S. A.

Exports Houses—Companies registered under the Companies Act and co-operative societies and federations with a sound financial organisational strength and experience in the field of export trade could be recognised as Export House. The criteria laid down for recognition as a trading house are : an export house should have been in the export field for at least 3 years, with average annual export of select products of at least Rs. 10 crores during these 3 years. The exports should comprise a minimum of three product groups and cover products manufactured by small scale units to the extent of 10 per cent by way of direct exports or 20 per cent by way of indirect exports of products manufactured by ancillary units. To be eligible for continuance as a trading house after the first three years, the concerns should undertake to achieve an annual average growth in exports of at least 15 per cent. Export House recognised under the revised scheme are eligible for Government assistances from the Marketing Development Fund for a wider range of their activities and the scales of grants are also higher than before. The number of firms so far accorded recognition under the revised scheme is 1988.

Awards of Outstanding Export Performance—A beginning was made in accordance with national recognition to excellence of performance in the field of exports.

Imports Licences—Licences issued during 1987-88 increased by Rs. 1,202 crores from 9,213 crores in the last year to Rs. 10,415 crores due entirely to an increase in licenses issued to the private sector. The value of licences issued to the government declined by crores during the year.

INDIAN EXCHANGE CONTROL— Foreign exchange has been under control in India since 1939. The exchange control gives the Government wide powers to control transactions in foreign exchange and securities and in the import or export of bullion or currency. Transaction, between India and all foreign countries are subject to exchange regulations, although regulations vary somewhat as applied to different countries. The object of the Indian Exchange Control is to secure a balance in international payments account. There are restrictions on imports but remittances are freely allowed against permitted imports. Infact a specific or a general licence to import any good carried with it the right to remit funds. The regulation also allow remittance of profits, interests, dividends, savings of foreign companies and foreign nationals carrying on business in the country. This is a quota of exchange for travel within the soft currency area, though travel to the dollar areas has to be specially authorised. Investment of Indian capital in foreign countries is not permitted except in the case of opening of branches of trading, banking and insurance companies.

The Reserve Bank of India is in charge of the overall administration of exchange control. However, it has delegated considerable authority over day-to-day operation to those bank and their branches that have been authorised to deal in foreign exchange. All exchange must be bought and sold at prices prescribed by the Reserve Bank of India. All exchange must be bought and sold at prices prescribed by the Reserve Bank of India.

Foreign Exchange Reserves— As on end - March 1988, India's foreign exchange reserves comprised foreign currency assets of Rs. 7,287.14 crores, Special Drawing Rights 125.25 million and gold of 274.28 crores.

INDIA'S FOREIGN TRADE
(in Crores of Rupees)

	Imports (-)	Exports (+)	Balance of Trade
1967-68	2,007.61	1,198.69	-808.92
1968-69	1,998.63	1,357.37	-550.76
1969-70	1,582.10	1,413.27	-168.83
1970-71	1,634.20	1,535.16	-99.40
1971-72	1,824.54	1,608.22	-216.82
1972-73	1,867.44	1,970.83	+103.39
1973-74	2,995.37	2,523.10	-431.97
1974-75	4,518.68	3,328.83	-1,221.95
1975-76	5,264.82	4,042.61	-1,222.20
1976-77	5,074.00	5,146.00	+72
1977-78	6,025.00	5,404.00	-621
1978-79	6,814.00	5,726.00	-1,088
1979-80	8,908.00	6,459.00	-2,449
1980-81	12,210.00	6,675.00	-5,535.00
1981-82	13,671.00	7,803.00	-5,868.00
1982-83	14,261.00	8,814.00	-5,447.00
1983-84	15,763.00	9,865.00	-5,898.00
1984-85	17,143.00	11,855.00	-5,318.00
1985-86	18,371.00	10,420.00	-7,951.00
1986-87	20,201.00	12,569.00	-7,632.00
1987-88	22,343.00	15,719.00	-6,624

FOREIGN EXCHANGE RESERVES

	SD Rs (In million of SD Rs)	Gold (In lakhss of Rupees)	Foreign Exchange
	1	2	3
1973-74	244.9	182.53	580.78
1974-75	234.9	182.53	610.50
1975-76	202.8	182.53	1,491.70
1976-77	187.4	187.80	2,862.99
1977-78	161.6	193.09	4,499.75
1978-79	364.9	219.50	5,219.86
1979-80	529.1	224.71	5,163.66
1980-81	490.5	225.58	4,822.12
1981-82	425.1	225.58	3,354.47
1982-83	270.2	225.58	4,265.26
1983-84	216.4	225.58	5,497.85
1984-85	146.5	245.78	6,816.78
1985-86	161.40	274.28	6,384.35
1986-87	231.76	274.28	7,615.17
1987-88	125.25	274.28	7,287.14

(Report on Currency & Finance, 1987-88)

INDIA'S EXPORTS OF PRINCIPAL COMMODITIES

(Value : Rs. in Crores)

COMMERCE

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Sl. No	Items	1985-86	1986-87	% change 1986-87 1985-86	1987-88 (P)	% change 1987-88/ 1986-87	April-Sept. 1987 (P)	April-Sept 1988 (P)	% change 1988/ 1987
1.	2.	3	4	5	6	7	8	9	10
1.	Tea	626.27	576.78	- 79	592.37	+ 2.7	267.10	280.85	+5.1
2.	Coffee	264.85	296.70	+ 12.0	263.22	- 11.3	166.74	140.88	- 15.5
3.	Cereals	242.18	232.04	- 4.2	360.03	+ 55.2	158.42	155.38	- 1.9
i)	Rice	196.32	197.33	+ 0.5	324.57	+ 64.5	145.55	155.06	+ 6.5
ii)	Wheat	45.86	34.71	- 24.3	35.46	+ 2.2	12.87	0.32	- 97.5
4.	Tobacco	169.57	185.77	+ 9.6	134.56	- 27.6	103.55	76.25	- 26.4
i)	Unmanufactured	136.94	145.86	+ 6.5	109.32	- 25.1	89.15	64.82	+ 27.3
ii)	Manufactured	32.63	39.91	+ 22.3	25.24	- 36.8	14.40	11.43	- 20.6
5.	Spices	277.81	279.03	+ 0.4	309.29	+ 10.8	146.60	155.70	+ 6.2
6.	Cashew incl. CNSL	225.10	327.55	+ 45.5	306.70	- 6.4	212.23	153.99	- 27.4
7.	Oil Cakes	133.99	189.77	+ 41.6	173.28	- 8.7	80.14	79.77	- 0.5
8.	Fruits & Vegetables	123.97	155.82	+ 25.7	150.79	- 3.2	85.50	71.93	- 15.9
9.	Meat & meat Products	73.81	75.46	+ 2.2	85.54	+ 13.4	39.04	39.01	- 0.1
10.	Marine Products	408.98	538.97	+ 31.8	525.11	- 2.6	258.00	290.63	+ 12.6
11.	Cotton Raw	68.17	204.66	+ 200.2	95.49	- 53.3	83.81	13.53	- 83.9
12.	Ores & Minerals (Of which)	784.66	723.09	- 7.8	711.10	- 1.7	332.20	424.16	+ 27.7
a)	Iron Ore	578.80	546.61	- 5.6	542.76	- 0.7	250.99	282.67	+ 12.6
13.	Leather & Leather manufactures.	769.91	922.41	+ 19.8	1148.52	+ 24.5	491.31	696.63	+ 41.8
14.	Gems & Jewellery	1502.65	2074.31	+ 38.0	2613.50	+ 26.0	1251.17	1845.42	+ 47.5
15.	Sports Goods	23.86	25.70	+ 7.7	36.94	+ 43.7	9.94	31.88	+ 220.7

Sl. No	Items	1985-86	1986-87	% change 1986-87/ 1985-86	1987-88 (P)	% change 1987-88/ 1986-87	April-Sept. 1987 (P)	April-Sept. 1988 (P)	% change 1988/ 1987
1.	2.	3	4	5	6	7	8	9	10
16.	Chemical & Related Products								
	a) Basic Chemicals, Pharmaceuticals & Cosmetics	497.49	583.23	+ 17.2	823.37	+ 41.2	329.67	687.46	+ 108.5
	b) Plastic & Linoleum Products	468.50	545.88	+ 16.5	774.29	+ 41.8	312.85	641.93	+ 105.2
17.	Engineering Goods	28.99	37.35	+ 28.8	49.08	+ 31.4	16.82	45.53	+ 170.7
18.	Cotton fabric yarn, made-ups etc.	954.10	1132.73	+ 18.7	1433.04	+ 26.5	606.89	961.78	+ 58.5
19.	Natural Silk Textiles	573.67	637.25	+ 11.1	1063.78	+ 66.9	466.33	503.51	+ 8.0
20.	Wool and Wollen mfrs.	71.79	84.73	+ 18.0	123.67	+ 46.0	50.77	92.17	+ 81.5
21.	Readymade garments	8.49	6.81	- 19.8	6.91	+ 1.5	2.15	11.63	+ 440.9
22.	Coir & coir mfrs.	1067.04	1330.51	+ 24.7	1792.06	+ 34.7	779.37	879.78	+ 12.9
23.	Jute manufactures	33.73	33.53	- 0.7	29.44	- 12.2	14.02	14.12	+ 0.7
24.	Man made Textiles	261.77	244.02	- 6.8	242.82	- 0.5	101.32	114.18	+ 12.7
25.	Handicrafts	31.33	52.58	+ 67.8	102.39	+ 94.7	31.11	67.84	+ 118.1
26.	Carpets	146.04	190.55	+ 30.5	248.38	+ 30.3	107.04	167.26	+ 56.3
	a) Hand made	257.58	326.68	+ 26.8	485.11	+ 27.1	173.22	255.69	+ 47.6
	b) Mill made	232.75	282.72	+ 21.5	391.43	+ 38.5	164.24	214.73	+ 30.7
27.	Petroleum Products	24.83	43.96	+ 77.0	23.68	- 46.1	8.98	40.96	+ 356.1
		509.57	411.23	- 19.3	648.69	+ 57.7	373.08	253.55	- 32.0
	Grand Total	10894.59	12452.36	+ 14.3	15741.23	+ 26.4	7411.26	8986.92	+ 21.3
	(Incl. other items)								

Note : * Relates to machinery including Transport equipment and Metal manufactures including Iron & Steel.
P : Provisional/Preliminary and subject to revision.
Source : DGCI & S, Calcutta.

A SUMMARY STATEMENT OF INDIA'S IMPORTS OF PRINCIPAL COMMODITIES

(Value : Rs. in Crores)

Sl. No.	Items	1985-86	1986-87	% change 1986-87 over 1985-86	1987-88 (P)	% change 1987-88 over 1986-87	April- September 1987 (P)	April-Sept September 1988 (P)	% change April- September, 1988 over April- September, 1987
1	2	3	4	5	6	7	8	9	10
I.	TOTAL IMPORTS	19657.69	20200.65	+ 2.8	22398.97	+ 10.9	10398.87	13164.29	+ 26.6
II.	BULK IMPORTS	10569.65	7150.75	- 32.2	8561.05	+ 1.9	3802.04	4993.70	+ 31.3
	i) Cereal & Cereal preparations	110.20	47.04	57.3	32.68	- 30.5	10.84	156.56	+ 1344.3
	ii) Fertilizers	1435.80	773.54	- 46.1	486.18	- 37.1	203.47	348.54	+ 71.2
	a) Crude	162.62	131.10	- 19.4	138.41	+ 5.6	65.01	69.69	+ 7.2
	b) Sulphur & Unroasted Iron pyrites	220.34	147.31	- 33.1	176.24	+ 19.6	83.24	111.82	+ 34.3
	c) Manufactured	1052.84	495.13	- 53.0	171.53	- 65.4	55.22	167.03	+ 202.5
	iii) Edible Oil	734.66	611.96	- 16.7	920.04	+ 50.03	333.55	509.97	+ 52.9
	iv) Non-ferrous metals	541.82	414.91	- 23.4	576.11	+ 38.9	207.00	396.39	+ 91.5
	v) Paper, paper Board and manufactures thereof	225.97	194.81	- 13.8	258.09	+ 32.5	93.92	139.77	+ 48.8
	(incl. Newsprint)	408.38	205.24	- 49.7	174.11	- 15.2	153.12	100.13	- 99.9
	vi) Sugar	100.62	80.74	- 19.8	107.82	+ 33.5	59.41	106.01	+ 78.4
	vii) Crude Rubber								
	viii) Minerals & fuels, lubricants & related products	4989.39	2769.68	- 43.9	4082.75	+ 46.0	1872.73	2105.20	+ 12.4

Sl. No.	Items	1985-86	1986-87	% change 1986-87 over 1985-86	1987-88 (P)	% change 1987-88 over 1986-87	April- September 1987 (P)	April-Sept September 1988 (P)	% change April- September, 1988 over 1987
1	2	3	4	5	6	7	8	9	10
ix)	Pulp & Waste Paper	245.47	208.43	- 15.1	228.02	+ 9.4	114.77	112.11	- 2.3
x)	Metalliferous ores & Metal Scrap	362.74	367.71	+ 1.4	422.06	+ 14.8	194.97	334.81	+ 71.7
xi)	Iron & Steel	1394.60	1449.69	+ 4.0	1273.19	- 12.2	558.26	784.30	+ 40.5
III.	PEARLS, PRECIOUS & SEMI-PRECIOUS STONES	1099.67	1495.48	+ 36.0	1994.17	+ 33.3	946.71	1536.42	+ 62.3
IV.	MACHINERY	4083.96	5268.19	+ 29.0	6135.62	+ 16.5	2804.00	3150.42	+ 12.4
i)	Machinery, Electric & non-electric	3515.27	4591.35	+ 30.6	5395.27	+ 17.5	2410.76	2751.54	+ 14.1
ii)	Transport equipment	568.69	676.84	+ 19.0	740.35	+ 9.4	393.24	398.88	+ 1.4
V.	OTHERS	3924.41	6286.23	+ 60.2	5708.13	- 9.2	2846.12	3483.66	+ 22.4
	(OF WHICH)								
i)	Organic & Inorganic chemicals	1089.41	1035.67	- 4.9	1050.52	+ 1.4	458.96	908.00	+ 97.8
ii)	Artificial resins, plastics material etc.	322.02	435.89	+ 35.4	548.44	+ 25.8	212.47	438.23	+ 106.3
iii)	Professional, scientific controlling instruments, photographic and optical goods, watches and clocks	378.91	455.62	+ 20.2	490.59	+ 7.7	211.44	307.72	+ 45.5

P : Provisional/Preliminary and subject to revision
Source : DGCI & S, Calcutta

INDIA'S EXPORTS BY REGIONS/SUB REGIONS

(Value : Rs. in Crores)

Sl. No.	Region/Sub Region	1985-86	1986-87	% change 1986-87 over 1985-86	1987-88 (P)	% change 1987-88 over 1986-87	April-September 1987 (P)	April-September 1988 (P)	% change April-September 1988 over April-September, 1987
1	2	3	4	5	6	7	8	9	10
I.	WEST EUROPE	2125.69	3037.67	42.9	4362.85	43.6	1953.54	2386.91	22.2
	a) ECM Countries	1928.57 (18.8)	2735.65 (22.7)	41.8	3957.30 (26.2)	44.7	1769.56 (25.1)	2148.62 (24.8)	21.4
	b) EFTA Countries	184.19 (1.8)	269.80 (2.2)	46.5	365.03 (2.4)	35.3	165.07 (2.3)	192.25 (2.2)	16.5
	c) Rest of West Europe	12.93 (0.1)	32.22 (0.3)	149.2	40.52 (0.3)	25.8	18.91 (0.3)	46.04 (0.5)	143.5
II.	EAST EUROPE	2415.80	2389.19	(-) 1.1	2593.48	8.6	1276.50	1427.49	11.8
		(23.6)	(19.8)		(17.2)		(18.1)	(16.4)	
III.	ASIA & OCEANIA	3233.38	3763.38	16.4	4612.42	22.6	2149.64	2734.82	27.2
		(31.6)	(31.3)		(30.6)		(30.5)	(31.5)	
	a) ESCAP	2356.73 (23.00)	2879.82 (23.9)	22.2	3531.68 (23.4)	22.6	1607.41 (22.8)	2120.49 (24.4)	31.9
	B) Rest of Asia & Oceania	876.65 (8.6)	883.56 (7.3)	0.8	1080.74 (7.2)	22.3	542.23 (7.7)	614.71 (7.1)	13.4

Sl. No.	Region/Sub Region	1985-86	1986-87	% change 1986-87 over 1985-86	1987-88 (P)	% change 1987-88 over 1986-87	April- September 1987 (P)	April- September 1988 (P)	% change April- September, 1988 over 1987
IV.	AFRICA								
V.	AMERICA								
a)	North America	349.02 (3.4)	348.63 (2.9)	(-) 0.1	384.29 (2.5)	10.2	177.51 (2.5)	233.48 (2.7)	31.5
		2125.97 (20.7)	2502.26 (20.8)	17.7	3123.82 (20.7)	24.8	1480.99 (21.0)	1898.45 (21.9)	28.2
		2105.87 (20.5)	2468.51 (20.5)	17.2	3078.04 (20.4)	24.7	1464.43 (20.8)	1850.06 (21.3)	26.3
b)	South America	8.75 (0.08)	15.56 (0.1)	77.8	15.26 (0.1)	(-) 1.9	6.77 (0.1)	24.95 (0.3)	268.5
c)	Other America	11.35 (0.1)	18.19 (0.2)	60.30	30.52 (0.2)	67.8	9.79 (0.1)	23.44 (0.3)	139.4
TOTAL OF ABOVE *		10249.86	12041.13	(-) 0.1	15076.86	+ 25.2	7038.18	8681.15	23.3
GRAND TOTAL		10894.59	12452.36	14.3	15741.23	26.4	7411.26	8986.92	21.3

P : Region and Sub-Region figure are preliminary/provisional and subject to Revision.

* : The total of exports of all regions does not include export of crude and petroleum products. These have been taken into account in the grand Totals. Figures in bracket indicate percentage share of individual region, sub-region in total export of all regions as shown at*

Source : DGCI&S, Calcutta

INDIA'S IMPORTS BY REGIONS/SUB REGIONS

(Value : Rs. in Crores)

Sl. No.	Region/Sub Region	1985-86	1986-87	% change 1986-87 over 1985-86	1987-88 (P)	% change 1987-88 over 1986-87	April-September 1987 (P)	April-September 1988 (P)	% change April-September 1988 over April-September 1987
1	2	3	4	5	6	7	8	9	10
I.	WEST EUROPE	5755.87 (29.3)	7590.46 (37.6)	+ 31.9	8406.85 (37.5)	+ 10.8	3959.46 (38.1)	4718.01 (35.8)	+ 19.2
	(a) ECM Countries	5233.72 (26.6)	6541.50 (32.4)	+ 25.0	7459.11 (33.3)	+ 14.0	3596.94 (34.6)	4179.13 (31.7)	+ 16.2
	(b) EFTA Countries	486.79 (2.5)	882.97 (4.4)	+ 81.4	827.30 (3.7)	- 6.3	362.84 (3.1)	407.91 (3.1)	+ 24.8
	(c) Rest of West Europe	35.36 (0.2)	165.99 (0.8)	+ 369.4	120.44 (0.5)	- 27.4	35.68 (0.3)	130.97 (1.0)	+267.1
II.	EAST EUROPE	2243.47 (11.4)	1552.29 (7.7)	-30.8	1795.84 (8.0)	+ 15.7	894.97 (8.6)	959.23 (7.3)	+ 7.2
III.	ASIA & OCEANIA	7937.82 (40.4)	7404.93 (36.7)	- 6.7	8639.98 (38.6)	+ 16.7	3912.29 (37.6)	5013.53 (38.1)	+ 28.1
	(a) ESCAP	4688.45 (23.9)	5066.45 (25.1)	+ 8.1	4989.46 (22.3)	- 1.5	2234.30 (21.5)	2953.81 (22.4)	+ 32.2
	(B) Rest of Asia & Oceania	3249.37 (16.5)	2338.48 (11.6)	- 28.0	3650.52 (16.3)	+ 56.1	1677.99 (16.1)	2059.72 (15.6)	+ 22.7

Sl. No.	Region/Sub Region	1985-86	1986-87	% change 1986-87 over 1985-86	1987-88 (P)	% change 1987-88 over 1986-87	April- September 1987 (P)	April- September 1988 (P)	% change April- September, 1988 over 1987
IV.	AFRICA	657.05 (3.3)	888.47 (4.4)	+ 35.2	687.37 (3.1)	- 22.6	252.99 (2.4)	519.80 (3.9)	+ 105.5
V.	AMERICA	3063.48 (15.6)	2764.50 (13.7)	- 9.8	2868.93 (12.8)	+ 3.8	1379.16 (13.3)	1924.09 (14.6)	+ 39.5
	(a) North America	2514.79 (12.8)	2341.45 (11.6)	- 6.9	2330.56 (10.4)	- 0.5	1077.94 (10.4)	1634.60 (12.4)	+ 51.6
	(b) South America	473.85 (2.4)	377.17 (1.9)	- 20.4	450.23 (2.0)	+ 19.4	245.25 (2.4)	236.29 (1.8)	- 3.7
	(c) Other America	74.84 (0.4)	45.88 (0.2)	- 38.7	88.14 (0.4)	+ 92.1	55.97 (0.5)	53.20 (0.4)	- 4.9
GRAND TOTAL		19657.69	20200.65	+ 2.8	22398.97	+ 10.9	10398.87	13164.29	+ 26.6

P : Region and Sub-Region are preliminary/provisional and subject to revision. Figures in brackets indicate percentage share of individual region/sub-region in total imports

Source : DGCI & S, Calcutta.

EXPORTS OF PRINCIPAL COMMODITIES FROM INDIA

(Value in Rs. Crores)

Sl. No.	Major Commodity Head	Unit of quantity	April of March				April to September			
			1986-87		1987-88 (P)		1987 (P)		1988 (P)	
			Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value
1.	Meat & meat preparations	Value	—	75.46	—	85.54	—	39.04	—	39.01
2.	Marine Products	'000T	110.6	538.97	97.9	525.11	48.1	258.00	45.1	290.63
3.	Rice	'000T	248.3	197.33	371.6	324.57	178.6	145.55	189.2	155.06
4.	Wheat	'000T	214.2	34.71	246.0	35.46	76.9	12.87	1.6	0.32
5.	Vegetables and fruits									
	(a) Cashew Kernels									
	(incl. CNSL)									
	(b) Others	'000T	43.0	327.55	36.1	306.70	24.8	212.23	21.3	153.99
6.	Miscellaneous processed food (incl. processed fruits & juices)	Value	—	155.82	—	150.79	—	85.50	—	71.93
		Value	—	75.45	—	65.90	—	30.10	—	55.24
7.	Sugar and Mollasses	'000T	3.1	1.44	2.3	0.76	0.8	0.24	1.5	0.59
8.	Coffee & coffee substitutes	Mill. Kg.	73.4	296.70	88.7	263.22	56.5	166.74	41.7	140.88
9.	Tea and mate	Mill. Kg.	192.4	576.78	197.3	592.37	82.7	267.10	88.3	280.85
10.	Spices	'000T	97.0	279.03	83.1	309.29	40.7	146.60	49.3	155.70
11.	Oil cakes	'000T	1044.6	189.77	684.2	173.28	307.9	80.14	308.6	79.77
12.	Tabacco unmanufactured & refuse	'000T	67.7	145.36	60.7	109.32	47.9	89.15	28.6	64.82
13.	Cotton Raw	'000T	202.3	204.66	73.0	95.49	65.8	83.81	9.2	13.53
14.	Iron Ore	Mill. Ton	28.7	546.61	28.3	542.76	13.2	250.99	14.1	282.67

Sl. No.	Major Commodity Head	Unit of quantity	April of March				April to September			
			1986-87		1987-88 (P)		1987 (P)		1988 (P)	
			Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value
15.	Mica (including split-tings) and Mica waste	Mill. (Kg)	19.9	19.66	33.9	23.18	18.4	11.62	24.3	14.81
16.	Ores & minerals other than Iron Ore, Mica and coal.	Value	—	150.95	—	137.32	—	67.16	—	121.50
17.	Shellac	'000T	4.5	17.68	4.2	13.97	1.9	6.30	2.8	7.89
18.	Cotton Yarn, fabrics, made-ups, etc.	Value	—	637.25	—	1063.78	—	466.33	—	503.51
19.	Natural Silk textiles (excl. silk RMG and clothing accessories of silk)	Value	—	84.73	—	123.67	—	50.77	—	92.17
20.	Man-made textiles (excl. RMG & clothing accessories of man-made fibres)	Value	—	52.58	—	102.39	—	31.11	—	67.84
21.	Wool & Woollen textiles (excl. RMG & clothing accessories of wool)	Value	—	6.81	—	6.91	—	2.15	—	11.63
22.	Ready made garments (including clothing accessories) of all textile materials	Value	—	1330.51	—	1792.06	—	779.37	—	879.78
23.	Coir manufactures	Value	—	33.53	—	29.44	—	14.02	—	14.12
24.	Jute mfg. (incl. Twist & Yarn)	Lake Ton.	2.9	244.02	2.4	242.82	1.1	101.32	1.7	114.18
25.	Carpets, Mill made	Value	—	43.96	—	23.68	—	8.98	—	40.96

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26. Leather & leather mfg. (incl. leather foot wear travel goods & garments)	Value	—	922.41	—	1148.52	—	491.31	—	696.63
27. Handicrafts	Value	—	2547.58	—	3253.31	—	1522.45	—	2227.11
(a) Gem & Jewellery	Value	—	2074.31	—	2613.60	—	1261.17	—	1845.42
(b) Works of Art	Value	—	190.55	—	243.38	—	107.04	—	167.26
(c) Carpets, Hand- made	Value	—	282.72	—	391.43	—	164.24	—	314.73
28. Engineering goods	Value	—	1132.73	—	1433.04	—	606.89	—	961.78
29. Coal	'000T	108.7	5.97	169.0	7.84	46.4	2.43	75.0	5.18
30. Petroleum products	Value	—	411.23	—	648.69	—	373.08	—	253.55
31. Basic chemicals, pharmaceuticals, cosmetics, etc.	Value	—	545.88	—	774.29	—	312.85	—	641.93
32. Plastic & Manufacture thereof	Value	—	37.35	—	49.08	—	16.82	—	45.53
33. Tobacco, manufactured	'000T	21.6	39.91	15.7	25.24	7.8	14.40	4.8	11.43
34. Sports goods	Value	—	25.70	—	36.94	—	9.94	—	31.88
GRAND TOTAL (including others)		12452.36(a)	15741.23(b)		7411.26(d)		8986.92(c)		

.. Means NIL or negligible.

N.B. Export of Crude Petroleum during 1986-87, 1987-88 and April to September 1988 are NIL.

(a) Figures are based on Monthly Statistics of the Foreign Trade of India Vol. I for March '87.

(b) figures are provisional

(c) Figures are as per September '88 Press Note and are provisional.

(d) Figures are provisional and based on Annual Report of Ministry of Commerce, 1987-88 and the Brochure on Principal commodities and Countries for September, 1987.

INDIA'S IMPORTS OF PRINCIPAL COMMODITIES

(Value in Rs. Crores)

Sl. No.	Major Commodity Head	Unit of quantity	1986-87				1987-88 (P)				April to September 1987 (P)				1988 (P)			
			Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value
1.	Cereal and Cereal preparations																	
	(a) Wheat	'000T	107.6	37.27	10.0	3.50									346.3	81.61		
	(b) Rice	'000T	2.5	0.79	5.7	2.21			1.0	0.49					100.0	40.96		
	(c) Other Cereals	'000T	2.5	0.43	0.1	0.05									88.9	16.75		
	(d) Cereal Preparations	'000T	16.8	8.55	52.0	26.92			21.5	10.35					33.1	17.24		
2.	Milk and Cream	'000T	5.8	8.45	25.6	49.93			5.1	14.27					21.9	25.11		
3.	Cashew Nuts	'000T	45.6	65.63	44.9	63.50			29.9	46.00					19.4	24.95		
4.	Fruits & Nuts excl. Cashew-Nuts	Value		59.21		59.03				17.89						14.16		
5.	Sugar	'000T	725	205.24	571.4	174.11			12.3	153.12						0.13		
6.	Other Oil seeds	Value		4.37		10.80				2.12						0.69		
7.	Crude rubber (incl. synthetic & reclaimed)	'000T	59.9	80.0	69.0	107.82			44.7	59.41					56.9	106.01		
8.	Pulp and waste paper	'000T	480.4	208.43	431.0	228.02			212.6	114.77					176.1	112.11		
9.	Synthetic and regenerated fibres	'000T	25.5	44.11	17.1	28.40			6.8	11.16					10.2	16.79		
10.	Wool, raw	'000T	19.9	55.87	18.9	79.20			6.3	24.00					12.8	75.15		
11.	Fertilisers, crude	'000T	1567.7	131.10	1773.3	138.41			844.1	65.01					880.6	69.69		
12.	Sulphur & unroasted iron pyrites	'000T	775.7	147.31	978.45	176.24			510.9	83.24					590.2	111.82		
13.	Other crude minerals	Value		64.46		66.98				27.97						65.03		

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14. Metalliferous Ores and Metal scrap	Value	—	367.71	—	422.06	—	194.97	—	334.81
15. Petroleum, Petroleum Products & related materials**	Mill. Tonne	18.5	2796.68	22.4	4082.75	10.8	1872.73	11.6	2105.20
16. Vegetable Oils, fixed (edible-oil)	'000T	1415.5	611.96	1800.6	920.4	747.0	333.55	714.7	509.97
17. Organic Chemicals	Value	—	504.41	—	652.45	—	298.63	—	497.46
18. Inorganic chemicals	Value	—	531.26	—	398.07	—	160.33	—	410.54
19. Dyeing, tanning & Collouring materials	Value	—	72.63	—	79.87	—	32.64	—	42.28
20. Medical & Pharmaceutical Products	Value	—	158.03	—	137.10	—	57.53	—	97.74
21. Fertilisers, manufactured	'000T	2908.7	495.13	1229.6	171.53	401.6	55.22	841.8	167.03
22. Artificial resins, plastic materials, etc.	Value	—	435.89	—	548.44	—	212.47	—	438.23
23. Chemical materials & Products	Value	—	119.62	—	173.57	—	70.36	—	89.72
24. Paper, paper-board & manufactures there of	'000T	240.0	194.81	283.8	258.09	113.3	93.92	127.5	139.77
25. Textile, Yarn, fabrics & made-up articles, etc.	Value	—	124.72	—	187.78	—	84.79	—	128.11
26. Pearls, precious & semi-precious stones	Value	—	1495.48	—	1994.17	—	946.71	—	1536.42
27. Non-metallic mineral manufactures excl. pearls, etc.	Value	—	85.13	—	86.23	—	24.35	—	72.49
28. Iron and Steel	'000T	2401.0	1449.69	2253.6	1273.19	955.3	558.26	1387.9	784.30

** Includes Nil Mill. Tonne of POL amounting to Rs. 23.76 for 1986-87, Rs. 46.16 for 1987-88, Rs. 11.61 for April to September, 1987 and Rs. 32.86 for April to September, 1988 imported by private and some Government agencies.

INDUSTRIES

Functions and Organisational Set-up— The Ministry of Industry is responsible for the production of industrialisation of the country by encouraging the orderly development of large, medium and small-scale industries both in the private and the public sectors. It formulates the overall industrial policy, seeks to promote productivity in industries and encourages the development of industrial co-operatives. This Ministry is also responsible for planning, development and control of the assistance to all industries other than those specifically allotted to any other Ministry/Department. In the public sector, besides the management of the public sector undertakings under the administrative control this Ministry also co-ordinates matters of general policy of non-financial affecting all public sector industries as well as commercial undertakings. In the co-operative sector, except for co-operative sugar fertilizer factories, the work relating to all other industries has been entrusted to this Ministry.

The Ministry of Industry was constituted on 23 August, 1976. It comprises of the following two Departments—Dept. of Industrial Development and Dept. of Heavy Industry.

The Department of Public Enterprises was set up by the Presidential Notification on 25th September, 1985, consisting of Department of Industrial Development and Department of Heavy Industry.

A brief description of the organisation under the administrative control of the Ministry is given below :—

(i) *Office of the Development Commissioner, Small Scale Industries, New Delhi*— This Office is responsible for the development and fostering of small scale industries. It functions through a net-work of 16 Small Industries Service Institutes, 16 Branch Institutes, 51 Extension Centres, 5 Production Centres and 2 Training Centres.

(ii) *Office of Economic Adviser, New Delhi*— This office renders technical advice on all issues of economic nature. It assists in the formulation of industrial and import policies and renders advice and assistance on allocation of foreign exchange for the import of raw materials and other maintenance inputs. It also compiles the official index number of prices in India, conducts research on prices and tariffs, employment, foreign trade and industries, and provides assistance in bringing out publications of this Department relating to economic commercial and industrial matters.

(iii) *Department of Explosives, Nagpur*— is concerned with the administration of the Indian Explosives Act, 1884, Petroleum Act, 1934 and Inflammable Substances Act 1952. It also functions an advisory body to the Central and State Governments, Railway Port Authorities and Civil Aviation Department.

(iv) *Office of the Controller General of Patents, Designs and Trade Marks, Bombay*— This Office was established on 25 November, 1959, in pursuance of Trade Merchandise Marks Act, 1958. Under the Act, the trade Marks Registry and the Patent Offices have been amalgamated under the administrative charge of a single officer, viz., the Controller-General of Patents, Designs and Trade Marks. There are Branch Offices at Calcutta, Delhi (Okhla) and Madras. The Patent office is concerned with the administration of the Patents and Designs Act, 1911, and is located at Calcutta.

(v) *Directorate General of Technical Development, New Delhi*— This organisation is assigned the responsibility of giving technical advice to all Ministers/ Departments of the Central Government. Five Regional Offices have been set up at Madras, Calcutta, Lucknow, Bombay and Hyderabad. The Organisation also has several other Divisions as follows : (1) Policy, Plan & Co-ordination Division

- (2) Technology Development Division (3) Management Information Division
 (4) Import Policy and Export Promotion Division (5) Enemy Conservation Division
 (6) Environmental Division (7) Publication & Public Relation Division.

(vi) *Office of the Salt Commissioner, Jaipur* — has under its administrative control 5 regional offices at Bombay, Madras, Calcutta, Jaipur and Ahmedabad and is responsible for the administration of the Central Excise and Salt Act, 1944 and rules made thereunder and Salt Cess Act, 1953, quality control of salt, running of salt laboratories and model salt farms and Government salt factories. It also arranges, in consultation with the State Governments, the distribution of salt throughout the country.

(vii) *Bureau of Industrial Costs and Prices, New Delhi* — advises the Government on various aspects of the price structure in relation to industrial costs, cost reduction and productivity.

(viii) *Directorate General of Industrial Contingency, New Delhi* — was established in 1976 as a non-participating attached office of the Ministry of Industry. The Directorate was established with a view to ensuring that industrial production in the country does not suffer on account of strikes, lay-offs, lock-outs etc.

(ix) *Office of the Cement Controller, New Delhi* — the main functions of this organisation are to regulate the equitable distribution of cement throughout the Country at fair price. Four Regional Offices have been set up at Delhi, Calcutta, Bombay and Madras and two sub-regional offices at Ahmedabad and Guwahati.

(x) *Chief Controller of Accounts* — The Department was set up April, 1976 as a part of Finance Wing. The Accounting Organisation has its Headquarters at New Delhi and 15 Pay and Accounts Offices. The department is responsible for making the Policy, Planning and Administration of the Pay & Accounts Wing, to prepare Monthly Receipts and Expenditure Account, Annual Appropriation and Finance Accounts of the Ministry, to arrange the disbursement of Loans, Grants-in-aid, Subsidies etc and to make various other payments.

(xi) *Office of the Technical Adviser (Boilers)* — is responsible for the administration of the Indian Boilers Act, 1923 and the Indian Boiler Regulation framed thereunders.

(xii) *Central Boilers Board* — is responsible for making regulations for laying down the standards for materials, design, construction as well as for registration and inspection of boilers.

INDUSTRIAL POLICY OF THE GOVERNMENT

The Industrial policy of the Government — First announced on April 6, 1948, it envisaged a mixed economy with an overall responsibility of the Government for the planned development of industries and their regulations. Industries were classified under three heads : (1) Arms and ammunition, atomic energy, river valley projects and the railways, were declared to be State monopolies ; (2) Coal, iron and steel, aircraft, telephones, telegraphs, wireless, ship-building and mineral oils, were to be the responsibility of the State. The existing private undertakings in these industries were, however, to continue for at least ten years; (3) The rest of the industrial field was left open to private enterprises.

A fresh statement of industrial policy was amended by the Government on April 30, 1956, due to the acceptance of a socialistic pattern as the objective. Under this, the State can assume direct responsibility for the future development of industries over a wider area than before. Under the revised policy, 17 key industries, as specified in the Schedule A, are the exclusive responsibility of the State and 12 in the Schedule B will be progressively State owned. The remainder (non-listed) will be left to private sector. The statement promises private industrial undertakings "as much freedom as is consistent with the targets and objectives of the

National Plan." It assures fair and non-discriminatory treatment where both sectors exist in the same industry.

Schedule-A Industries — Arms and ammunition and allied items of defence equipment; atomic energy; iron and steel; heavy castings and forgings of iron and steel; heavy plant and machinery required for iron and steel production, for mining, for machine tool manufacturers, and for such other basic industries as may be specified by the Central Government; heavy electrical plant including large hydraulic and steam turbines; coal and lignite; mineral oils; mining of iron ore, manganese ore, chrome ore, gypsum, sulphur, gold and diamonds; minerals specified in the Schedule to the Atomic Energy (Control of Production and Use) Order, 1953; aircrafts; air transport; railway transport; shipbuilding; telephone cables; telegraph and wire apparatus (excluding radio receiving sets); generation and distribution of electricity.

Schedule-B Industries — All other minerals except minor minerals, as defined in Section 3 of the Minerals Concession Rules, 1948; aluminium and other non-ferrous metals not included in the Schedule A; machine tools, ferroalloys and tool steels; basic intermediate products required by chemical industries, such as the manufacture of drugs, dyestuffs and plastics; antibiotics and other essential drugs; fertilizers, synthetic rubber, carbonization of coal; chemicals pulp; road transport; transport.

In recent years the Govt. has introduced liberalisation in industrial licensing policy, industrial approvals and foreign exchange regulation approvals. But it remains keen on the Indianisation of foreign companies and has insisted that 40 per cent of shares of such units should at least be in indigenous hands. Many of the foreign establishments like the Coca Cola and I.B.M. who have refused to adhere to Govt. regulations have wended up their concerns. Although this might pose difficulties for the present this Govt. policy will stimulate the search for Indian substitutes and the march to our self-sufficiency.

The Industrial Policy Statement of July 1980 seeks for optimum utilisation of installed capacity and the expansion of industries as part of a wider strategy for the revival of the industrial economy. The objectives of the policy include higher employment generation, correction of regional imbalances faster promotion of export oriented industries as well as self-reliance through deliberate and systematic import substitution, development of agrobased industries and equitable opportunities for investment and dispersal of small and growing units as well as urban areas.

REGULATION OF INDUSTRIES — The powers under the industrial policy of the Government enunciated in 1948 and 1956 had to be acquired by legislation. The first step was the amendment of the Constitution. The second step was the passing of Industries (Development and Regulation) Act of 1951. Under this Act, all new and existing undertakings are required to be licensed. The government is authorised to examine the working of any industrial undertaking which continued to be mismanaged and are empowered to take over its management or control.

QUALITY CONTROL — The Indian Standards Institutions continued to make efforts for creating standard-consciousness and maintaining high levels of quality of manufactured and finished goods.

FINANCIAL ASSISTANCE TO INDUSTRIES — For the rapid industrial development, the Government of India have set up special financial institutions for medium and long term credits to industrial enterprises. The Government give financial assistance either by granting loans on special terms or by participating in equity capital. Industrial Finance Corporation, a number of investment or development corporations have been set up with either direct or indirect participation by the State. (For the details of the Institutions which tender financial help to the industries, see Financial Institutions section).

COMMITTEES & COUNCILS — There are several Committees and Councils under this Ministry for the development of Industries.

Central Advisory Council of Industries — It was continued under the Industries (Development and Regulations) Act, 1951, to advise the Government on all matters concerning the development and regulations of industries. It consists of representatives of industry, labour, consumers, and primary producers. There is a Standing Committee of this Council.

Central and Regional Advisory Board for Salt — In order to advise Government on proper utilisation of Cess proceeds as provided in the Salt Act, 1953, the Central and six regional Advisory Boards for the salt-producing States of Rajasthan, Gujarat, Maharashtra, Tamil Nadu, Andhra Pradesh, West Bengal and Orissa was constituted in October, 1954.

Standing Committee on Industrial Co-operation — was set up on January 25, 1960 to conduct periodical review of the progress of industrial co-operatives for cottage and small industries in the country and to examine the problems and suggest measures to overcome the difficulties impeding the rapid progress of such societies.

Licensing Committee — had been set up for consideration of applications for Industrial Licensing.

Rural Industries Planning Committee — is responsible for the implementation of the rural industries project programme, which aims at evolving effective techniques, methods and programmes for the intensive development of small industries in selected rural areas.

DEVELOPMENT COUNCILS — have been set up under the Industries (Development and Regulations) Act, 1951 for the following industries : (i) sugar, (ii) heavy electrical, (iii) drugs and pharmaceuticals, (iv) machine tools, (v) non-ferrous metals and alloys, (vi) oils, detergents and paints, (vii) food processing, (viii) organic chemicals, (ix) automobiles, automobile ancillaries, transport vehicles, tractors and earth-moving equipment and internal combustion engineers, (x) paper, pulp and allied industries, (xi) textile machinery, (xii) leather and leather goods, (xiii) man-made textiles, (xiv) wool including woollen yarn.

PANELS — Have been set up where industries are not sufficiently developed or advanced. They examine the various policies facing the industries.

TECHNICAL DEVELOPMENT FUND — was introduced in March, 1976, with the objective of promoting modernisation, quality control, technological upgradation, rationalisation of product-mix, fullers utilisation of capacity and enhancement of export capabilities of industrial units.

OTHER ORGANISATIONS

(i) *Indian Standards Institutions, New Delhi* — This is a quasi-Government institution which is responsible for drawing up standards for the products of Indian Industries. It was established in 1947.

(ii) *National Productivity Council, New Delhi* — was started in February, 1958 as an autonomous body with representatives of the Government employers, labour and others, with the object to inculcate productivity consciousness in the country and to apply the latest techniques of increasing productivity in industries. The Council services can be divided into the following major heads : Training of Industrial Engineers, Training and Consultancy Services, International Services, Fuel Efficiency Service, Agricultural Production, Supervisory Development, Research and Surveys, Publications and Publicity, Development of New Programmes and Evaluation of NPC Field Services. The Council has established 11 Regional Productivity Directorate at Bombay, Calcutta, Madras, Kanpur, Bangalore, Ahmedabad, Chandigarh, Delhi, Guwahati, Patna and Ludhiana manned by

27. Ball roller and needle bearing	lakh Nos	386	367	406	479	579	618	704
28. Boilers	Rs. lakhs	345.60	420.11	517.36	455.90	616.60	736.23	646.51
III. Intermediate Goods Industries								
29. Cotton yarn	000 Tonnes	1,093	1,168	1,347	1,183	1,249	1,303	1,555
30. Petroleum refineries and products of petroleum	"	28,203	31,083	32,885	32,208	39,877	42,481	45,521
31. Jute and mesta textiles	"	725	783	656	806	823	831	678
i) Sacking	"	349	323	228	326	311	349	316
ii) Hessian	"	4,040	4,173	4,575	4,618	5,917	4,683	4,526
32. Giant tyres	000 Nos.	31	23	20	205	309	309	333
33. Tin metal container	000 Tonnes	31	23	20	205	309	309	333
34. Bolts and nuts	"	61,376	51,128	56,287	72,973	75,703	82,949	54,044
35. Plywood-commercial	000 Sq. mtrs.	97	109	113	129	139	159	320
36. Paints, enamels and varnishes	000 Tonnes	23	26	31	33	39	34	34
37. Nylon filament yarn	"	42	34	37	33	42	45	56
38. Viscose filament yarn	"							
IV. Consumer Goods Industries								
39. Cotton textiles (decentralised)	"							
40. Paper and paper boards	Mill. mtrs.	5,060	5,564	6,037	6,427	7,627	5,348	9,018
41. Cotton cloth	000 Tonnes	1,218	1,221	1,186	1,390	1,517	1,870	1,997
42. Sugar	Mill. mtrs.	6,874	3,118	3,588	2,619	2,603	2,470	3,025
43. Tea	000 Tonnes	6,576	8,643	7,205	6,152	6,759	7,701	8,705
44. Wheat flour/maida	"	552	561	603	643	657	622	689
45. Terecycline	2,396	2,622	3,004	3,526	3,546	3,779	3,783	
46. Artificial leather cloth	Tonnes	236	260	230	230	238	252	401
47. Cigarettes	000 Mtrs.	21,112	22,455	23,430	22,300	25,400	17,763	19,388
48. Beer	Cores.	9,100	9,405	8,782	8,650	7,700	7,191	6,184
49. Vanaspathi	000 Ltrs.	161,855	168,620	165,764	205,000	204,400	186,580	148,742
50. Penicillin	000 Tonnes	865	890	889	918	868	923	980
51. Soaps all kinds	M.M.U.	374	376	336	228	236	351	623
52. Telephonic instruments	000 Nos.	332	342	371	1,000	1,398	1,531	1,506
53. Wrist Watches	"	354	494	881	834	931	734	694
		5,109	5,693	5,184	5,540	5,320	7,501	7,467

Note (a) Relates to Directorate General of Technical Development.

b) Relates to Small Scales Industry.

c) Relates to April 1984 to December 1984.

PRODUCTION OF SELECTED INDUSTRIES

Sl. No.	Industry Item	Unit	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88
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I. Basic Industries

1.	Electricity	Mill. Kwh.	122,866	131,485	140,587	156,616	169,948	187,498	201,891
2.	Coal, including lignite	000 Tonnes	130,504	137,754	146,045	155,209	161,797	174,330	187,469
3.	Finished steel	-	6,689	6,864	6,144	6,871	7,923	8,071	8,807
4.	Fertilisers (nitrogenous and phosphatic)	-	4,092	4,159	4,541	5,181	5,755	7,066	7,478
5.	Cement, all kinds	-	21,064	23,070	26,920	30,160	33,036	36,520	36,940
6.	Steel casting	-	81@	86@	92@	159	229	239	300
7.	Pipes and tubes (other than spun pipes)	-	567@	785@	813@	170@	202@	1,231	1,127
8.	Stamping and forgings	-	165	127	52	154	165	165	135
9.	Sulphuric Acid	-	2,308	2,301	2,352	2,795	2,555	3,014	3,202
10.	Caustic soda	-	613	602	651	746	727	764	958
11.	Heavy structurals	-	24	30	41	41	42	59	140
12.	Aluminium Ingots	-	208	209	220	277	251	236	244
13.	Copper metal (cathode)	-	25	28	29	33	30	34	35

II. Capital Goods Industries

14.	Commercial vehicles	Numbers	92,115	85,952	88,446	96,810	103,050	105,997	119,872
15.	Auto-ancillary and parts	Rs. lakhs	636,57	673,17	717,78	825,08	961,61	1026,06	909,41
16.	Electric motors (D/GTD)	000/HP	4,577	4,636	5,199	4,940	5,250	4,941	4,252
17.	Railway locomotives	Numbers	205	219	210	200	210	259	223
18.	Textiles machinery	Rs. lakhs	214,37	206,79	225,91	221,67	196,86	296,64	357,72
19.	Electric generators	-	150,48	160,26	171,03	178,25	189,31	130,25	232,59
20.	Machine tools	Rs. crores	3@	3@	3@	336	338	407	474
21.	Ship building and repairing	Rs. lakhs	109,35	198,52	275,73	141,64	378,30	327,26	278,96
22.	Complete tractors	Numbers	84,216	62,833	76,045	84,920	76,350	79,940	82,933
23.	Diesel engines	000 Numbers	176@	169@	150@	1,254	2,046	2,094	1,898
24.	Railway wagons	Numbers	17,676@	14,345@	17,173@	13,010@	13,100	16,471	15,906
25.	Motor starters and contactors	000 Numbers	1,433	1,519	1,366	1,418	1,456	1,512	1,822
26.	Railway coaches	Numbers	1,113	1,158	1,194	1,209	1,179	1,234	1,244

specialists for organising productivity training. It has so far set up 47 Local Productivity Councils at various industrial centres in the country. It has also set up an agricultural Productivity Division to consider steps for increasing agricultural productivity.

(iii) *Inventions Promotion Board, New Delhi*— The Board is a registered society set up for promotion of inventive spirit amongst independent workers, artisans and technicians. The Board awards cash prizes and certificate of merit to persons and institution doing outstanding work.

(iv) *Central Machines Tools Institute, Bangalore*— This is a registered society which conducts research in the field of machine tools design and technology.

(v) *Small Industry Extension Training Institute, Hyderabad*— was set up in Dec. 1960, to accelerate the growth and development of small industry through training, research and service activities. It was converted into a registered society in July 1962.

(vi) *National Institute of Design, Ahmedabad*— This Institute has been set up as a registered society with the assistance of the Ford Foundation for undertaking training, research and service programmes in their respective fields.

(vii) *Central Boilers Board*— is the national code-preparing body for boilers. The Board is responsible for making regulations consistent with the Indian Boilers Act, 1923 (5 of 1923).

(viii) *Research and Development Organisation for Electrical Industry*— was set up at Bhopal on 1st April, 1966.

(ix) *Central Institute of Tool Designs, Hyderabad*— With a view to providing experienced Tool Designers and Tool Makers to the Small Sector, the above Institute was started on 1st July, 1968 with U.N. assistance. It was converted into a society on 1st April, 1970.

(x) *Institute for Designs of Electrical Measuring Instruments, Bombay*— was established with U.S. assistance on 11th September, 1969. It was converted into a Society on 1st April, 1970.

(xi) *Central Tool Room & Training Centre, Calcutta*— was established with Danish assistance in March 1976, with the objective of ensuring that the tool room technology keeps pace with the rapid industrialisation of the small scale sector.

(xii) *Central Institute of Hand Tools, Jalandhar*— was set up in May, 1983, to provide assistance and technical support in the field of design and development of hand tools consultancy and service to small entrepreneurs.

INDUSTRIAL ESTATES— The Government have started in several places Industrial Estate for the private industrialists so that they can use the machineries or the production of their goods.

PUBLIC SECTOR COMPANIES

The public sector enterprises under the administrative control of this Ministry are set up in the form of companies in which the shares are held by the President or his nominees and which are managed by the Boards of Directors, which include both officials and non-officials. These Companies fall in the following 4 main categories :

(a) *Corporations whose main object is to promote industrial development but which are themselves not directly responsible for production* such as National Industries Development Corporation, National Small Industries Corporation, Indian Handicrafts, Development Corporation, etc.

(b) *Industrial Projects, which are in the construction stage.*

(c) *Industrial Projects in production*, such as Sindri unit of the Fertilizer Corporation of India, Hindustan Machine Tools, Hindustan Antibiotics, Hindustan Cables, National Instruments, Nahan Foundry, etc.

(d) *Trade Promotion* — This is the main objective of the fourth category of the companies which include the State Trading Corporation.

Thirty seven manufacturing public enterprises under the Dept. of Public Enterprises account for a total investment of about Rs. 3,615.84 crores and employment of over 2,59,630 persons. During the year 1987-88 the turnover of the engineering groups in the public sector was Rs. 5,003 crores, and the turnover of the non-engineering group is Rs. 583 Crores. The Engineering Units incurred a profit of Rs 204 crores during 1987-88. The units which generated, sizable cash surplus were BHEL, HMT, BHPV and Lagannjute. These PSUs have in hand orders totalling Rs. 10,139 crores at the end of October, 1988 and total exports by PSUs during 1988-89 is likely to be Rs. 397 crores.

Air India — Air India International Corporation was incorporated on June 15, 1963, taking over the assets and business of Air India International Ltd. In 1962, the word 'International' was dropped by an amendment to the Air Corporation Act. The Capital provided is Rs. 26.82 crores.

Andrew Yule & Co. Ltd., Calcutta — Started as a Managing Agency and with the abolition of the managing Agency system entered into the engineering line. In April 1974, Govt. of India acquired 49 per cent shares in the Company, which was held by foreign shareholders. In May 1979, on Government of India, acquiring an additional 2 per cent shares in the Company, Andrew Yule became a Government Company. The present Government equity participation in the company is about 83 per cent.

Artificial Limbs Manufacturing Corporation of India, Kanpur — was registered in November 1972 to manufacture a comprehensive range of the latest design of artificial limbs, braces and rehabilitation aid in this plant.

Asoka Hotels Ltd., New Delhi — a public limited company wanted to start a big hotel in New Delhi but it could not raise the requisite finance. So ultimately in May 1956, the entire project was taken over by the Government of India which built a hotel known as Asoka Hotel and that started functioning from October 1956. The authorised and paid-up capital of the Company is Rs. 2.50 crores.

Bharat Brakes & Valves Ltd. — came into being on 1 August 1978, vesting in it the undertakings of erstwhile Gresham & Cravan of India Pvt. Ltd. The Company has been mainly engaged in the manufacture of various equipment for the Railways e.g. vacuum and air brakes, industrial valves etc.

Bharat Bhari Udyog Nigam Ltd. — Following the Government's decision to re-structure and reorganise Public Enterprises with a view to impart greater measure of autonomy, increase efficiency and inter-unit coordination between the constituent public sector enterprises, a Holding Company under the name of "Bharat Bhari Udyog Nigam Limited (BBUNL)" with corporate Headquarters at Calcutta, consisting of the following undertakings, has been set up in September, 1986: (i) Burn Standard & Company Limited; (ii) Braithwaite & Company Limited; (iii) Bharat Wagon & Engineering Company Limited; (iv) Jessop & Company Limited. (v) Lagan Jute Machinery Company Limited; (vi) Bharat Process & Mechanical Engineers Limited, and Weighbird India; (vii) BBJ Construction Co. Ltd. (A consortium formed by three public sector undertakings viz. Burn, Braithwaite and Jessop)

The company would coordinate and decide policies regarding financing, borrowing, investment, budget, product-mix, capacity utilisation, marketing and commercial aspects research & development technology absorption, diversification and other policy matters of the subsidiary companies.

Bharat Earth Movers Ltd., Bangalore — was set up on May 11, 1964 in the public sector. Controlled by the Defence Ministry, it has established a factory at

a cost of Rs 11 crores to manufacture types earth-moving equipment in collaboration with an American firm, Le-Tournean Westinghouse Company of Peroria, U.S.A.

Bharat Electronics Ltd., Jalahalli, Bangalore— The Government of India registered on April 21, 1954, Bharat Electronics Limited to set up a large-scale industry for manufacture of wireless, and electronic equipment primarily for the defence services and civil departments of the Government. It has an authorised capital of Rs. 10 crores. The factory began production in January 1956.

Bharat Gold Mines Pvt. Ltd. — operates the Kolar Mines, since April 1, 1972.

Bharat Heavy Electricals Ltd. — came into being as a separate company on November 13, 1964, as a consequence of bifurcating Heavy Electrical (India) Ltd., Bharat Heavy Electricals has been entrusted with the responsibility of administering and executing the following projects: (1) High pressure Boiler plant, Tiruchirappalli (Tamil Nadu) has been set up with Czech assistance and is designed to produce annually 30,000 tonnes high pressure boiler equivalent to 75 MW generating capacity, 2500 tonnes high pressured boiler valve fittings, 10 packages boiler units and 1,100 tonnes of pressure units. The outlay of the factory including township will be Rs. 2,500 crores. The construction work commenced in June 1963. On 12 June, 1964 an agreement was concluded with Messrs Technoexpert, Prague for the supply of detailed design and manufacturing documentation for the items to be manufactured in the plant. (2) Heavy Power Equipment Plant, Ramchandrapuram (Andhra) has also been set up with Czech assistance and is designed to manufacture steam turbines, turbo-alternators, and pumps equivalent to a total output of 900 MW per annum. The estimated cost of the plant including township is 39.25 crores. The construction work started in August 1963. (3) Heavy Electrical Equipment Plant, Ranipur, near Hardwar (U.P.) set up with Soviet assistance, is designed to manufacture steam turbines and turbo-alternatives, water turbines and generators, medium and large-sized industrial electric motors. In May 1964, contracts were signed with the Prommesh Export, Moscow for the entire supply of imported equipment. This Rs. 86-crore project was inaugurated on 3rd Jan., 1967. The Plant will produce steam turbines and turbo-generators for thermal power stations and all types of turbine for hydroelectric schemes. On completion it will be the biggest of its kind in the world. (4) The Switchgear Unit, Hyderabad has been set up with Swedish collaboration for the manufacture of air blast circuit breakers. The capital outlay on the project is Rs. 190 lakhs. (5) Central Foundry Forge Project, Hardwar is designed to meet the requirements of steel castings and steel forgings. The technical know-how is being supplied by a French Company. The estimated outlay on the project is Rs. 26 crores.

Bharat Heavy Plate and Vessels Ltd. — was set up in June 1966 to implement the Heavy Plate and Vessels Project for establishing a factory at Visakhapatnam for the heavy chemical and allied industries for a total capacity of 23,000 tonnes. The plant has been set up with Czech assistance. The Company has diversified into many schemes, one such important scheme is Gyogenics which is occupying one third of the Plant Capacity.

Bharat Leather Corporation Ltd., Agra— was set up in March 1976 to serve as an apex body for the promotion and development of leather and leather goods industry in India. The authorised capital of the corporation is Rs. 5 crores and paid-up capital of Rs. 4.84 crores.

Bharat Ophthalmic Glass Ltd. — Till 31st March, 1972 the ophthalmic Glass Plant at Durgapur was a constituent unit of National Instruments Ltd. With a view to providing better management control, the plant had been separated from National Instrument Ltd., and a separate company entitled 'Bharat Ophthalmic Glass Ltd', had been incorporated with effect from 1st April, 1972. The plant

established with the financial and technical assistance of USSR has an installed capacity of 300 tonnes of glass blanks and 10.3 million pieces of lenses.

Bharat Process and Mechanical Engineers Ltd. — was incorporated on 14th October, 1980, in which undertakings of Bird & Co., have been vested. The company engaged in the production of industrial water, cranes, winches, chemical equipment like heat exchangers, condensers, towers, catlons, resins, valves, gear box etc.

Bharat Pumps and Compressors Ltd. — has been incorporated on 1st January, 1970 with a view to implement the pumps and compressors project to be set up at Naini near Allahabad. The project is estimated to cost Rs. 6.59 crores for establishing an annual capacity of 6,000 tonnes of pumps and compressors.

Bharat Wagon Engineering Co. Ltd. — was incorporated on 8 Dec. 1978 in which the undertakings of Britannia Engineering Co. and Arthur Butler & Co. Ltd., have been vested. It has two units located at Muzaffarpur and Mokameh. The former unit manufactures meter gauge wagon, sugar mill equipment and structural while the latter manufactures broad gauge wagons and structurals. The company also has a small chit at Bela, which manufactures domestic gas cylinders.

Bharat Yantra Nigam Ltd. — was incorporated on 9th July, 1986 at Allahabad. A Holding Company, it was formed to co-ordinate and ensure efficient working of its six subsidiaries with a view to attain optimum utilisation of resources and provide package and turnkey service to various sector of the company. The names of this six subsidiaries are (i) Bharat Heavy Plant & Vessels Ltd., Viskhapatnam, (ii) Bharat Pumps and Compressors Ltd., Naini, Allahabad (iii) Bridge & Roof Co. (India) Ltd., Calcutta. (iv) Richardson & Crudds (1972) Ltd., Bombay, (v) Tungbhadra Steel Products Ltd., Tungbhadra Dam, (vi) Triveni Structurals Ltd, Naini, Allahabad.

Bokaro Steel Ltd. — A priliminary Project Report for the establishment of steel works at Bokaro in Bihar was prepared in 1958 by Messrs Dastur & Co. an Indian firm. In 1962, the U.S. Agency for International Development prepared a technoeconomic survey on the establishment of steel works at Bokaro. A detailed Project Report was completed by Dastur & Co. in July 1963. In May 1964, the Government of USSR agreed to finance the first stage of the project i.e. to a capacity of 1.5 to 2 million tonnes of ingot steel per annum. Bokaro Steel Ltd. was incorporated on January 29, 1964, with an authorised capital of Rs. 100 crores. A team of Soviet specialists headed by the Director of Gipromez came to India in August 1964, for an on-the-spot of the project. The team left for USSR after signing a project assignment on October 13, 1964.

Bombay Uranium Thorium Factory — The foundation stone of the Factory was laid in Jan. 1954. The cost of the Factory is estimated to be Rs. 45 lakhs. It will produce 205 to 228 tons of thorium nitrate per annum and will process indigenous uranium and thorium ores, as well as uranium-bearing residues of the Indian Rare Earths Ltd.

Braithwait & Co. Ltd. — was incorporated on 1 December, 1976 by vesting the assets of the erstwhile Braithwait & Co. (India) Ltd., the management of which was taken over by the Government of India in 1975. The Company produces cranes structures, castings, forgings and Jute mill machinery at its Angus Works and wagons for the Railways and some structural items at its Clive Works. The Company has a paid up capital of 12.18 crores against an authorised capital of Rs. 15 crores.

Burn Standard Co. Ltd. — was incorporated on 1 Dec., 1976 vesting in it the undertaking of Burn & Co. and Indian Standard Wagon Co. Ltd. It is one of the largest multi-product and multi-work engineering units in Eastern India and the largest manufacturer of Railway wagons in the Public Sector.

Cement Corporation of India Ltd. — came into being on Jan. 18, 1965. This is a major step to promote the growth of cement industry in India. The corporation is fully owned by the Government of India and will address itself to the task of intensive surveying, prospecting and probing of limestone deposits, establishing cement manufacturing capacity and promoting all ancillary and supporting activities for building up the industry. It will act as a storehouse of information on the cement grade limestone deposits in the country. The Corporation has ten running units at Mandhar (M.P.), Kurkuntla (Karnataka), Nayagaon (M.P.) Akaltara (M.P.), Bokajan (Assam), Rajban (Himachal Pradesh), Yerraguntla (A.P.), Charkhi Dadri (Haryana), Adilabad (A.P.) and Tandur (A.P.). The total annual installed capacity of the Company is 37.22 lakhs tonnes.

Chittaranjan Locomotive Works — For lessening the dependence of the Indian Railways upon foreign sources the Government started at a cost of Rs. 14 crores a Locomotive Workshop at Chittaranjan (West Bengal) in 1948. Production commenced on January 26, 1950. The first steam locomotive was driven out of assembly lines of November 1, 1950. It now produces about 200 BG-type locomotives a year. It has also been producing electric engines. A 10,200 ton capacity foundry, set up heavy casting for the Railway, started production in 1963. **Computer Services Corporation** — was set up in 1975-76 as a service organisation to provide a complete range of services to computer users.

Cycle Corporation of India Ltd. — was incorporated at Calcutta as a fully owned public sector company with effect from 15th October, 1980 and the nationalised undertakings of Sen-Raleigh Group were vested in the new Government Corporation with effect from 25th October, 1980. The Authorised capital of the company is Rs. 14 crores.

Diesel Locomotive Works, Varanasi — This project at Varanasi was sanctioned in August 1961 with an estimated cost of Rs. 19.57 crores. In February 1962, a collaboration agreement was signed with ALCO of U.S.A. The capital lay out envisages an annual production of 150 BG locomotive.

Electronics Trade Technology Development Corporation — The activities of the Corporation mainly include export, import, and technology development.

Engineering Project (India) Ltd., New Delhi — in April 1970 a consortium of 8 selected public sector undertakings was constituted to take up business connected with the supply of equipment for steel plants, mines and other industrial projects by entering into contracts for design, manufacture, inspection, supply erection and commissioning of equipment on a turn key basis or otherwise. The authorised capital of the company is Rs. 10 crores and paid up capital is Rs. 8 crores.

Engineers India Ltd. — is a design engineering/construction organisation. With a view to make the country self-reliant in the setting up of petroleum refining, petrochemical and chemical plants, this wholly Government owned company was established in May 1967.

Fertilizer and Chemicals Travancore Ltd. — was incorporated in 1943. Govt. of India became a major shareholder in the company in 1963. The company has three operating units — one at Udyamandal and two at Cochin.

Fertilizer Corporation of India Ltd. — The Nagal Chemi-Fertilizers Ltd. and Sindri Fertilizer and Chemicals Ltd., ceased to be separate entities and became part of a single corporation under the name of Fertilizer Corporation of India from 1st January, 1961.

It has an authorised capital of Rs. 200 crore. The five operating units are Sindri modernisation, Sindri Rationalisation, Talcher, Gorakhpur and Ramagundam. Schemes under implementation for the expansion of production at Sindri two coal based plants, which will be among the largest in the world, are being set up at Talcher (Orissa) and Ramagundam (Andhra Pradesh). The present production

capacity of FCI is 385,000 tonnes of nitrogen and 36,000 tonnes of phosphate.

Garden Reach Workshop Ltd., Calcutta— was incorporated on Feb. 26, 1934 but was taken over by the Government of India on April 19, 1960. The business of the Company is marine repair works in the Port of Calcutta. It also undertakes design and manufacture of ships for inland and foreign markets. The Corporation has an authorised capital of Rs 3 crores.

Handicrafts and Handlooms Export Corporation of India Ltd.— It was originally known as Indian Handicrafts Development Corporation which was set up in 1958. The Company assumed its new name on June 1, 1962 when it became a subsidiary to the State Trading Corporation of India. It constitutes to direct its activities towards creating new markets and strengthening the established markets for Indian handicrafts for wide circulation in foreign markets. The Corporation has an authorised capital of Rs. 1 crore.

Heavy Electricals (India) Ltd.— was incorporated as a company on August 29, 1956. From Nov. 3, 1964, Heavy Electricals Ltd., is only responsible to administer Bhopal unit, while the other 3 units at Tiruchirapalli, Ramchandrapuram and Ranipur, near Hardwar are under the charge of Bharat Heavy Electricals, Bhopal unit was established in technical collaboration with Associated Electrical Industries Ltd., U.K. The factory at Bhopal went into production on July 1, 1960. The Company has an authorised capital of Rs. 50 crores.

Heavy Engineering Corporation Ltd., Ranchi— was formed on December 31, 1958, with an authorised capital of Rs. 100 crores, with the purpose to develop manufacture of heavy capital equipment through (a) Heavy Machine Building Plant with ultimate capacity of 105,000 tonnes of heavy machinery and structural items per year with a steel structural shop with a capacity for the manufacture of 25,000 tonnes of fabricated structurals per year; (b) Foundry Forge plant with a total capacity of about 1,80,000 tonnes per year; (c) Heavy Machine Tools plant with a capacity of 10,000 tonnes per year. These three plants have been set up at Hatia near Ranchi; of these the Heavy Machine Building plant has been established with Soviet assistance and the other two plants have been set up with Czech assistance.

A Foundry Plant is also being set up near the Heavy Machine Building Plant, with Czech credit technical assistance, for serving as a metallurgical base of the parent plant.

Hindustan Aeronautics Ltd.— was incorporated in October, 1964. Initially, the Aeronautics India Ltd., was formed on Aug. 16, 1963 for the manufacture of aircraft, aero-engines, electronic equipment, missiles etc. and had taken over from the Indian Airforce on June, 1, 1954, the aircraft Manufacturing Depot at Kanpur. The aircraft manufacturing project being undertaken in collaboration with the USSR Government was assigned to the Company on March 30, 1964 and on October 1, 1964, the Company was amalgamated with Hindustan Aircraft Ltd., Bangalore. The amalgamated Company has been named the Hindustan Aeronautics Ltd., and responsible for the following units: (1) Aircraft Factory at Bangalore, (2) Aircraft Depot at Kanpur, (3) Aircraft Factory at Nasik, (4) Aero-engine Factory at Koraput and (5) Electronic factory at Hyderabad.

Hindustan Aircraft Ltd., Bangalore— The Government of India and the Government of Karnataka are the only two shareholders of this Company. It is now a Government factory for manufacturing aircraft. In 1947, HAL was entrusted, with the manufacture of Percival Prentice Trainer aircraft for IAF. In March 1950, the Government of India entered into a licence agreement with De Havilland Co., UK. for the manufacture of Vampire jet aircraft in HAL. In Sept. 1956, the Government of India entered an agreement with Messrs. Folland Aircraft Ltd., U.K. for the manufacture of Gnats at HAL. The factory has also been building supersonic jet aircraft. It has designed and developed a light four-seater aircraft, *Krishak* an Ultralight multipurpose Aircraft, *Pushpak*, and a six-cylinder pistons aero-engine.

The HAL has also manufactured several Alouette helicopters, entrusted to it by the Government of India under licence from Sud-Aviation of France.

During 1963-64 HAL handed over the first batch of supersonic jet fighters to the Indian Air Force and the first India-made basic jet trainer, HJT-16 made its maiden flight.

Hindustan Antibiotic Ltd.— To meet the increasing demand for penicillin, the Government set up in March 1954, a factory at Pimpri (Maharashtra) with the help of UNICEF and WHO and with an authorised capital of Rs. 4 crores and paid-up capital of Rs. 2,47,26,000. Production began in August 1955. The management of the factory is vested in the Hindustan Antibiotics Ltd.

A *streptomycin plant*, with capacity of 40.45 tonnes per year, set up at Pimpri in technical collaboration with Messrs Merck & Co., Inc., went into production in 1963.

Hindustan Cable Ltd., Rupnarainpur (West Bengal)— was incorporated in August 1952 with the object of manufacturing telecommunication cables and accessories mostly required by the Post & Telegraphs Department. This plant was set up in collaboration with Standard Telephone & Cables Ltd., at an estimated cost of Rs. 82 Lakhs. Production started in 1960. The Company has an authorised capital of Rs. 3 crores, issued and paid-up capital being Rs. 160.47 lakhs.

Hindustan Fertilizer Corporation Ltd.— was incorporated with an authorised capital of Rs. 500 crores in 1978. It has two units in production and two projects under construction. The operating units are at Namrup in Assam, Durgapur in West Bengal and Barauni in Bihar. There are two projects under construction—one at Haldia in West Bengal and the other at Namrup.

Hindustan Housing Factory Ltd.— was incorporated on January 27, 1953 as a private limited company with the Government of India and Basakha Singh-Wallenborg Ltd. The agreement with the private firm terminated and it was taken over by the Government of India in Aug. 1955. The authorised capital of the Company is Rs. 75 lakhs and the paid-up capital Rs. 48.99 lakhs. The Factory now manufactures transmission poles, street-light poles, industrial heavy beams, re-fabricated roots, doors, windows, foam, concrete and partition blocks etc.

Hindustan Insecticides Ltd.— Established on April 1, 1954 with an authorised and subscribed capital of Rs. 130 lakhs and Rs 125.47 lakhs respectively. It is managing the two Government-owned DDT factories at Delhi and Alwaye (Kerala). The Delhi factory is producing 1,400 tonnes of Technical DDT per annum. It was established with the financial assistance from UNICEF and WHO. The Alwaye factory, with an annual capacity of 1,400 tonnes of technical DDT was established by the Government in 1954 at a total cost of about Rs. 97.03 lakhs and went into production in February 1958.

Hindustan Latex Limited— Hindustan Latex Limited was registered on 1st March, 1966 as a Public Sector Undertaking under the Department of Family Planning with the main object of manufacturing rubber condoms (Nirodh) in the country. The company went into commercial production in July, 1969. Its annual rated capacity is 144 million pieces of Nirodh. During the year 1971-72 the undertaking was expected to achieve 80 per cent of its rated capacity. In view of anticipated increase in demand for Nirodh, the Undertaking is proposing to double its production capacity.

Hindustan Machine Tools Ltd. Jalahalli, Bangalore— was incorporated on February 7, 1963 for carrying on business and manufacturing of machine tools, small tools etc. in pursuance of the technical collaboration agreement entered into by the Govt. of India with the firms of Oerlikon Machine Tools works and Buehrle & Co., both of Switzerland, for setting up a machine tool factory in the country. The Govt. of India bought over from Oerlikons their share capital in the company in 1956. The Company signed an agreement in 1959 with a French firm for the

production of centre height lathes and another agreement with Olivettes of Italy for the manufacture of 16 types of cylindrical grinding machine. It has an authorised capital of Rs. 16 crores.

The Company's first factory at Bangalore went into production in October 1955. The factory produces lathes, milling machines, radial drills, grinding machines, etc.

The Company has another factory at Bangalore, which was inaugurated on July 18 1961. The factory was built and planned without any foreign technical assistance and with no foreign financial aid.

HMT has started manufacturing watches in collaboration with a Japanese company in its second factory at Bangalore. The first stock of watch came out of the factory in 1961.

The third factory was started in Pinjore, near Chandigarh, in Haryana in 1962-63. This factory was inaugurated in October 1963.

The fourth factory came up in October 1964 at Kalamassari, near Ernakulam, Kerala.

The fifth unit of the HMT was commissioned on December 27, 1965, at Kukkatpalli near Hyderabad. Construction work of this factory at a capital cost of Rs. 7.75 crores. commenced in May 1964. There is another unit of this company in Hyderabad.

Hindustan Organic Chemicals Ltd.— was incorporated on December 12, 1960, for the manufacture of basic chemicals and intermediates in collaboration with a Consortium of West German Consultants. The plant is proposed to be located at Apta-Kharpada (Maharashtra) with an authorised capital of Rs. 12 crores.

Hindustan Paper Corporation Ltd.— was registered on 29th May, 1970 to implement newsprint/pulp/paper projects in the public sector. It has an authorised capital of Rs. 500 crores. The Corporation has presently three operating units, Hindustan Newsprint Ltd., Meveloor, Kerala; Nagaland Pulp and Paper Company Ltd., Tuli, Mokokchung, Nagaland; Mandya National Paper Mill Ltd., Belogula, Karnataka. The two integrated projects are Nagaon Paper Mill, Nagaon, Assam and Cachar Paper Project, Panchigram, Assam with production capacity of 1,00,000 Tons per annum each of writing and printing paper.

Hindustan Photo Films Manufacturing Co. Ltd., Madras— was registered on 29th November, 1960 with an authorised capital of Rs. 5.82 crores for setting up at Ootacamund a plant for the manufacture of raw films for cinema industry, photographic papers and films and X-ray films in technical collaboration with a French firm. The factory was inaugurated on January 7, 1967 and is the largest of its kind in Asia.

Another factory has been started at Ootacamund for the manufacture of various kind of photographic materials in collaboration with a French firm. The Government of India have entrusted the implementation of this to Hindustan Photo films Manufacturing Co., Ltd.

Hindustan Salts Ltd.— was set up by the Government of India at Jaipur on 12th April, 1958 with an authorised capital of Rs. 2 crores to take over the Government works at Sambhar Lake (Rajasthan), Kharaghoda (Gujarat), Mandi (Himachal Pradesh) and Ramnagar (Uttar Pradesh). A new company under the name and style of Sambhar Salts Ltd., with an authorised capital of Rs. 1 crore, was incorporated on 29th November, 1964 as a subsidiary of the Hindustan Salts Ltd.

Hindustan Shipyard Ltd., Visakhapatnam— the foundation stone of this shipyard was laid on June 21, 1941. This Shipyard acquired by the Government of India from the Scindia Steam Navigation Company in March 1952. It is now equipped with 4 large shipways and adequate workshops and jetty. It can build 4

diesel-propelled ships a year. The first ship built in the yard was launched on March 14, 1968. The authorised capital of the company is Rs. 10 crores.

A second shipyard is proposed to be built at Cochin with a Japanese collaborator, comprising a building blocks for building ships up to 66,000 DWT class and a ship repair dock capable of accommodation of ships up to 85,000 DWT. The project is estimated to cost Rs. 36 crores with a foreign exchange component of Rs. 5 crores.

Hindustan Steel Ltd.— was incorporated on Dec. 24, 1953 with an authorised capital of Rs. 100 crores. Now the authorised capital of HSL is Rs. 600 crores. With an investment of Rs. 1066 crores it is the biggest Company not only in the public sector but in the country as a whole.

Hindustan Steel Construction Ltd.— was incorporated in June, 1964 with the object of taking up the construction of steelworks in the first instance and others construction work later. The authorised capital of the company is Rs. 1 crore of which Rs. 23 lakhs has been paid-up as share capital.

Hindustan Teleprinters Ltd., Madras— was registered as a joint stock company on December, 14, 1960 with an authorised capital of Rs. 3 crores and a paid-up capital of Rs. 123 lakhs. The factory has been set up for the manufacture of teleprinters and ancillary equipment in technical collaborations with C. Olivette Co., S.P.A., Italy.

Hooghly Dock and Port Engineers Limited— was incorporated in 9th July, 1984, in which undertakings of the Hooghly Docking and Engineering Co. Ltd., have been vested. The company engaged in the production of ship-building, ship-repairing etc.

Indian Consortium for Power Project Pvt. Ltd.— has been registered on 25th June, 1969. The authorised share capital of the Company is Rs. 30 lakhs and initial subscribed capital is Rs. 10 lakhs. The consortium is intended to carry on all business relating to supply of entire equipment required for electrical power projects, as also their erection and commissioning.

Indian Drugs & Pharmaceuticals Ltd., New Delhi— was registered on April 5, 1961, with an authorised and paid-up capital of Rs. 25 crores and Rs. 21.75 crores respectively, to implement the four drug projects to be set up with assistance of the USSR Government. The four drug projects: (1) Antibiotics at Rishikesh, (U.P.); (2) Synthetic Drug at Kukatpalli, Hyderabad; (3) Surgical Instruments at Nandambakkam, near Madras; and (4) Photo Chemicals at Kerala. A unit of the company, the Rs. 5.15 crores Surgical Instrument Plant was commissioned on September 1, 1965. With the commissioning of a pilot plant of the Rs. 20-crore Russian aided Synthetic Drugs Projects on October 15, 1965, the project went into actual production in 1966. This is one of the three units of the Indian Drugs and Pharmaceuticals Ltd. being set up in collaboration with Techno-Export of USSR. It is the biggest of its kind in Asia. It will have an annual production capacity of 850 tonnes of modern synthetic drugs of the sulpha group, anti-T.B. and anti-leprosy drugs, anti-pyretics and vitamins and 4,000 tonnes of intermediates from which these drugs will be manufactured. Of the intermediates, 260 tonnes will be for sale. The total annual production of the project is estimated at Rs. 9 crores.

Indian Engineers Ltd.— has been set up to undertake the designing, construction and management of industrial projects in both the public and the private sectors. It is a joint venture of the Government of India and Bachtel International Corporation of U.S.A. The authorised capital of the Company is Rs. 2 crores and the initial issued capital Rs. 25 lakhs. The Government of India will have 51 per cent share in this Company and the remaining 49 per cent will be held by Bachtel International Corporation. The Company will provide engineering service in the development of petroleum, petro-chemical and other industrial programmes in the country.

Indian Explosive Factory, Gomia, Hazaribagh (Bihar)— the Government of India entered into an agreement with the Imperial Chemical Industries to set up a factory for the manufacture of India's requirements of industrial blasting explosives. The Government of India holds 20 p.c. of the equity capital and the I.C.I. the remaining 80 p.c. This factory was opened on 5th November, 1958.

Indian Oil Corporation Ltd.— Indian Oil Co., marketing organisation and Indian Refineries Ltd, a refining firm, both in the public sector, merged in 1964 to form Indian Oil Corporation Ltd. with a share capital of Rs. 75 crores. The Corporation has three divisions — pipelines, refineries and marketing with headquarters in New Delhi and Bombay respectively.

Indian Picture Export Corporation Ltd. — was registered as a public limited company on September 19, 1963, with an initial share capital of Rs. 10 lakhs which has since been raised to Rs. 25 lakhs. The Corporation's main objective is to purchase, market, export and exhibit films.

Indian Rare Earths Ltd. — was set up in August 1950, jointly by the Government of India and Kerala, with an authorised capital of Rs. 1 crore. The Monazite Factory at Alwaye in Kerala was formally opened in December 1952. This factory is designed to treat 1,500 tonnes of monazite per year and to produce therefrom about 1,500 tonnes of rare earth and also carbonate and sodium phosphate as by products.

Indian Telephone Industries Ltd.— It is the first public sector undertaking in India. The Government of India decided to set up a factory in collaboration with the Automatic Telephone & Electric Co. Ltd. U.K. An agreement was signed in May 1948. The factory was converted into a private limited company in February 1950. The Company was formed with a share capital of Rs. 200 lakhs which was increased to Rs. 400 lakhs in 1954 and again to Rs. 500 lakhs in 1964. The Central Government holds 90 p.c. of the shares and the remaining 10 p.c. by the Government of Karnataka and the Automatic Telephone & Electric Co. Ltd. The Factory manufactures all types of telephone equipment and long-distance carrier equipment. The Company has ancillary units in Bangalore, Naini, Srinagar, Rae Bareilly and Palghat.

Instrumentation Ltd.—The implementation of two precision instruments Plants, one at Kota (Rajasthan) and the other at Puddussery, Palghat district (Kerala) with the technical and financial assistance of the Government of USSR, has been assigned to the Instrumentation Ltd. incorporated on March 21, 1964 with an authorised capital of Rs. 7 crores and with its registered office at Kota. The Kota Plant manufactures electronic automatic indicators, electromagnetic instrument, recording and controlling instruments and sensing and transmitting elements and is financed from the credit of 18 million Roubles, under an agreement signed on 29th May, 1959. It was commissioned on Dec. 16, 1966 and has gone into commercial production since 25th September, 1968. The Puddussery Plant is to be financed from the savings of the 112.5 million Rouble credit in November 1957, in accordance with protocol signed in this regard on 25th May, 1963. It will manufacture mechanical Hydraulic and pneumatic instruments.

Integral Coach Factory, Perambur— is a State-owned factory in the north-west of Madras, which went into production in October 1955, for the manufacture of all-steel light-weight integral rail coaches. It was set up at a cost of Rs. 7.35 crores.

Janpath Hotels Ltd. — was registered under the Companies Act. 1956, on 25th September 1963. The authorised capital of the Company was fixed at Rs. 1 crore. The Company took over management of the Hotel on 1st April 1964. Under the agreements between the Central Government and the company, the land and capital assets pertaining, to Hotel Janpath were leased by the Government to the company and the soft and wasteful assets were sold to the Company. The Company

continue to manage the Janpath group of hotels comprising of Hotel Janpath, Hotel Ranjit and Lodhi Hotel.

Jessop & Co. Ltd.— The Company became a Government company from 1st April, 1973. The present authorised capital of the company is Rs. 35 crores and paid-up capital is Rs. 28.89 crores. The Government of India holds 97% of the paid up capital of the company. The main works of the Company are located at Dum Dum near Calcutta. The Company have also a captive grey-iron foundry at Durgapur and are engaged in the production of cranes, barrage gates, ropeway systems, earth moving equipment, road rollers, dumpers, paper machinery, wiring and steel plant equipment etc. As a measure of diversification, the company has also taken up manufacture of trams for Calcutta Tramways Company and local breakdown cranes for Indian Railways.

Lagan Jute Machinery, Co. Ltd., — was acquired by Government on 28th July 1978. The Company is engaged in the manufacture of drawing and spinning frames for the jute industry. The company has diversified into production to p.c luge Polymer Plate Processor collaboration with Anderson of Vruland, Holland. The company has also initiated plans to manufacture Presensitised Plates required for off set Printing.

Lubrizol India Ltd.— Produces chemicals and additives required in the production of lubricants and greases. It came on stream in November 1968.

Machine Tool Corporation of India Ltd.— was incorporated in Jan. 1967, with an authorised capital of Rs. 4 crores for the implementation of the Grinding Machine Tool Plant, Ajmer to be set up with Czech assistance.

Machine Tool Prototype Factory, Ambarnath, near Bombay— Started in April 1951, it designs special type of tools and machines required for use by ordinance factories. A novel feature of the Factory is a training school attached to it, which trains 100 skilled artisans every year.

Madras Fertilizers Ltd.— is a joint venture company with the Govt. of India, holding 51 per cent shares, the remaining 49 per cent being shared equally between Amoco Inc., U.S.A. and the National Iranian Oil Co. The authorised capital of the company is 14 crores.

Maruti Udyog Ltd. — was incorporated as a new Government Company on 24 Feb. 1981 for the manufacture of passenger cars, commercial vehicles and other connected items. The Company signed a collaboration agreement with M/s Suzuki's Motor Company, Japan on 2nd, October, 1982, which include the provision for transfer of technology to Maruti. Suzuki's share of the company's equity is 26% with an option to increase it to 40%. During 1987-88, Suzuki Motor Company exercised their option to increase their equity share in Maruti Udyog Ltd. from 25% to 40% as per the term of Joint Venture Agreement. Maruti project was approved by the Government at a total cost of Rs. 268.83.

Mazgaon Dock Ltd.— was incorporated on February 26, 1934 and was taken over the Government of India on April 19, 1960. The Company's main work is ship-repairing, besides ship-building and general engineering works, and it manages the shipyards at Bombay and Goa. The Company has an authorised capital of Rs 2 crores.

Mining and Allied Machinery Corporation Ltd.— This company was incorporated on 1st April, 1965 to take over the coal mining machinery project which till then formed part of Heavy Engineering Corporation. This unit has been set up with Soviet assistance for the manufacture of various coal mining equipment up to 45,000 tonnes a year.

Moghul Line Ltd., Bombay— Originally known as the Bombay and Persia Steam Navigation Co. Ltd., the Company was registered on Aug. 2 1877. Its name was formally changed to Moghul Line Ltd., on Dec. 5, 1938. Turner Morrison & Co

Ltd., took over the management of the company in 1913. On August 15, 1960, it became a Government Company with an authorised capital of Rs. 2 crores. The issued and paid-up capital is Rs. 1.01 crores, Government of India holds 92 per cent shares.

Naham Foundry Ltd.,— Sirmur (Himachal Pradesh)— Originally established in 1875 as a private organisation, it came under the ownership of the Government of India in 1952. The administrative control of the Company has been transferred to the Himachal Pradesh Government with effect from 24th September 1964. The foundry manufactures mainly agricultural implements, such as canecrushers, etc.

National Buildings Construction Corporation Ltd.— was set up in November 1960, with the principal objective of reducing the cost of construction and improving the quality of work in the building industry. The Corporation primarily undertakes construction work of the Central and State Government as well as of public sector undertakings through open competitive tenders. The authorised capital of the Corporation is Rs. 2 crores and the paid-up Capital is Rs. 145 lakhs.

National Bicycle Corporation of India Ltd.— was incorporated at Bombay as a fully owned public sector company on 27th October, 1980 and the nationalised undertaking of Hind Cycles Ltd. were vested in the new Government Corporation with effect from 28th October, 1980. The authorised capital of the company is Rs. 800 lakhs.

National Fertilizers, Ltd.— was incorporated on 23 August, 1974 with an authorised capital of Rs. 150 crores for the establishment of fertilizer plants in the north western region. NFL took over Nangal Unit and Nangal Expansion project from FCI in April 1978. It has four operating units viz. the calcium Ammonium Nitrate plant at Nangal and the Urea plants at Nangal, Bhatinda and Panipat.

National Industrial Development Corporation Ltd.— was set up in October 1954. It renders a wide range of consultancy services both at home and abroad. The services rendered include project engineering work as well as Project planning and pre-project investment studies.

National Instruments Ltd., Calcutta— was originally started as the Mathematical Instruments Office in 1830 for the repair and service of instruments used by the Survey of India. It was converted into a limited company on June 26, 1957 under the name of National Instruments Ltd. It manufactures various types of scientific and precision and precision Instruments including hydrometers, measuring cylinders, barometers, blood pressure instruments, dial gauges, etc. The authorised capital of the Company is Rs 5 crores.

National Mineral Development Corporation Ltd.— was incorporated on 15th November, 1958. The authorised capital of the Company is Rs. 15 crores. It has been entrusted with the execution of the following schemes— (1) Kirburn Iron Ore Project, Bihar ; (2) Bailadalia Iron Ore Project, M.P. (3) Redi Iron Ores Project, Maharashtra; (4) Khetri Copper Project, Rajasthan; (5) Panna Diamond Mining Project, M.P. ; (6) Daribo Copper Project, Rajasthan ; and (7) Zinc Ore Mining Project at Zawar (Rajasthan).

National Newsprint and Paper Mills Ltd., Nepanagar (M.P.)— Popularly known as Nepa Mills, it was formed at a private enterprise in 1947. Due to losses for various reasons, the mill passed into the hands of the Government of Madhya Pradesh in 1949. Later in 1958 the Government of India took over the majority share-holding of the Company. The paid-up capital of the company stands at Rs. 46.52 crores of which the share capital of the Central Government is 95%. The mill went into production in January 1955. It has an installed capacity of 88,000 tonnes annually.

National Projects Construction Ltd.— is a government concern incorporated on Jan 9, 1957, with an authorised share capital of Rs. 3 crores. There are following

shareholders—the Central Government and Government of Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Kerala, M.P.; Karnataka, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal and the Union territory of Chandigarh. The Corporation is executing works on various river valley Projects.

National Small Industries Corporation Ltd.—was set up in Feb. 1955. It renders valuable assistance to small-scale industries. One of its important functions is to supply them machinery on a hire-purchase basis. It has an authorised capital of Rs. 20 crores. It has training centre, at New Delhi, Rajkot, Howrah and Madras.

Nayveli Lignite Corporation Ltd.—was incorporated in November 1956. The agreement for the Project was signed on May 6, 1959. The Corporation has an authorised capital of Rs. 86 crores. The Project is an integrated one, because of its five-fold components—mining Project, thermal power plant, fertilizer plant, briquette making and claywashing plant.

Oil India Ltd. (OIL)—in which the Government of India and the Burmah Oil Company have equal shares, was incorporated in Assam on February 18, 1959, for the exploration and production of petroleum and crude oil (including natural gas) with an authorised capital of Rs. 50 crores. The first stage of the 720 mile long pipeline from Naharkatiya to Noonmati was commissioned in March 1962.

Orissa Mining Corporation Ltd.—was set up in May 1956 as joint venture of the Government of India and Orissa, with the main object to raise, assemble and transport iron and other minerals in Orissa for the purpose of sale or export or for undertaking other responsibilities conducive to the attainment of the above objects.

Praga Tools Corporation Ltd., Secunderabad—became a subsidiary of HMT Ltd., Bangalore with effect from 25 February, 1988. The Company manufactures machine tools and accessories, precision tools, auto and diesel parts, railway components, etc.

Project & Equipment Corporation of India—a subsidiary of State Trading Corporation of India, was incorporated in 1971 as a Government Company, with the main object to give a fillup to export engineering equipment and project. It specialities in export of Railway rolling stock, Heavy Engineering Equipment, Civil Construction and Turnkey Project.

Pyrites, Phosphates & Chemicals Ltd., Sindri (Bihar)—Set up in March 1960 as a subsidiary of the National Industrial Development Corporation, it assumed independent status from September 16, 1963. In reality, it is a sulphuric acid plant based on pyrites. The Company has got two main projects at hand—Mining Project at Amjhore (M.P.) and Sulphuric Acid Plant at Sindri. The company has an authorised capital of Rs. 5 crores.

Rashtriya Chemicals and Fertilizers Ltd.—was incorporated in 1978. It took over the Trombay unit, Trombay Expansion (Trombay IV) and Trombay V from FCI. The authorised share capital of the company is Rs. 500 crores.

Rehabilitation Industries Corporation Ltd.—Rehabilitation Industries Corporation Ltd. (RIC), Calcutta was established in April, 1959. The original objective of the undertaking was rehabilitation of displaced persons from former East Pakistan (now Bangladesh), Sri Lanka, etc. by giving financial assistance to industrial units, mainly in private and cooperative sectors and also by setting up industrial units of its own. At present, it has 13 production units with activities ranging from general engineering, coal handling projects, textile including silk, fruit processing unit, leather and garments unit. The authorised capital of the company is Rs. 5.00 crores and the paid up capital is Rs. 4.26 crores.

Richardson & Cruddas Ltd.—The Company has four units—two at Bombay

(Byculla and Mulund) and one each at Madras and Nagpur. The production-profile of the Company covers medium and heavy structurals, LPG tank wagons, railway points and crossings, sugar and rubber machinery, welding equipments etc.

Salem Steel Ltd. — was formed on 25th October, 1972 to operate the Salem Special Steel Plants. It will have an authorised capital of Rs. 100 crores to begin with. The plant will initially produce 70,000 tonnes of stainless and other special steels. The total investment involved is estimated at Rs. 340 crores.

Sambar Salts Ltd. — The authorised share capital of the company stands, at Rs 2 crores, the subscribed and paid-up capital being Rs. 1 crore. The entire capital is held by Hindustan Salts Ltd. and the Government of Rajasthan.

Scooters India Ltd. — was incorporated in September 1972 to undertake manufacture of scooters and three wheelers. The authorised capital of the company is Rs. 5.50 crores. The plant is located at Lucknow.

Shipping Corporation of India Ltd. — formed in 1961, by the amalgamation of the Eastern Shipping Corporation, and Western Shipping Corporation, for increasing India's overseas shipping. The authorised capital of the Corporation is Rs. 35 crores and paid-up capital is Rs. 27.95 crores.

State Trading Corporation of India Ltd. — was set up in May 1956, and its principal endeavour is to diversify and supplement country's foreign trade. It plays an important role in promoting trade abroad particularly with the East European countries including USSR. The trading activities of the Corporation has an authorised capital of Rs. 5 crores.

Tannery and Footwear Corporation of India Ltd. — was formed by Government as a fully-owned public sector for taking over the footwear and leather units of the British India Corporation Ltd and Cooper Allen. The taking over was effected on 23rd May, 1969. Authorised Capital of the Company is Rs. 1500 lakhs and paid up Capital is Rs. 14.16 lakhs.

Travancore Minerals Ltd. — which was registered on December 30, 1956 jointly by the Government of India and Kerala for taking over all sand separation undertaking from a previous company with an authorised capital of Rs. 1 crore was taken over by the *Indian Rare Earths Ltd.* during 1964-65.

Triveni Structural Ltd., Nairi — was registered in July 1965, with an issued and subscribed capital of Rs. 3 crores, for the manufacture of Heavy steel structures for buildings, bridges and other purposes. It is a joint enterprise by the Government of India and M/s Voest-Alpine of Austria at an estimated cost of about Rs. 700 lakhs. The installed capacity is 25,000 tonnes a year.

Tungabhadra Steel Products Ltd., Mysore — till recently a joint venture of the Governments of Karnataka and Andhra Pradesh, is a running concern engaged in the manufacture of hydraulic steel structurals, penstock pipes, etc. The Government of India acquired controlling interests in this company by investing Rs. 51 lakhs in February 1967. The authorised and paid-up Capital of the Company is Rs 3 crores.

Tyre Corporation of India Ltd., Calcutta — was set-up in February, 1984, by taking over two sick companies namely, Inchek Tyres Ltd. and National Rubber Manufactures Ltd. Calcutta, which were nationalised on 14th, February 1984. The product include automobile tyre and tubes, cycle tyre and tubes, rubber goods like fan and U belts, transmission and conveyor belts, hoses etc. The Company has an authorised capital of Rs. 25 crores.

DESCRIPTION OF INDUSTRIES.

Textiles — It occupies the foremost place among the organised industries of India. Bombay, Ahmedabad, Sholapur, Kanpur, Nagpur, Indore, Madurai and

Coimbatore are the main centres of this industry. The cotton textile industry at present comprises 622 mills with a total installed capacity of 16.95 million spindles.

Engineering—So far as engineering industry is concerned, India has become self-sufficient in a variety of articles like electric motors, batteries, sewing mechanism, ceiling fans and metal sheets for utensils. Machine-building industries as well as other engineering industries are recording increased production. The important items exported are M.S. pipes, tubes and fittings, railway wagons, electric wires and cables, auto and auto parts, bicycles and parts, hand and cutting tools, iron and steel castings, batteries and diesel engines, etc.

Jute—as the biggest earner of foreign exchange for India, jute industry occupies an important place in the country's economy. Partition of the country hit this industry hard but strenuous efforts have enabled the industry to rise again. To encourage modernisation, licenses for the import of machinery have been liberally granted to the jute mills and a start made in the manufacture of jute mill machinery in the country. At present, the mills concentrate on producing mainly (1) gunny bags or cloth used for packing rice, wheat, oil-seeds, etc.; (2) hessian cloth or bags used for bailing cotton, wool and other fibres; (3) coarse carpets and rugs; (4) cordage; (5) jute tarpaulins; (6) paper-lined hessian, jute carpets and webbing.

Aluminium—The aluminium industry in India comprises the manufacturing as well as fabricating units. The industry producing virgin aluminium metal came into being in India only during the last World War. Production of aluminium in India began in a small way around 1943.

The main aluminium plants today are all in the private sector. They are at Hirakud (20,000 tonnes), Renukoot near Rihalahd (60,000 tonnes), Asansol (7,500 tonnes), Alwaye (5,600 tonnes) and Mettur (10,000 tonnes). A public sector plant is being set up at Maharashtra with the help from West Germany.

The Government of India approved on November 2, 1965 the formation of a company in the public sector under the name of *Bharat Aluminium Company Ltd.*, to construct, manage and operate the Konya and Korba aluminium projects.

Light Mechanicals—They include ball-bearings, duplicators, sewing machines, typewriters, conveyor beltings, and zip-fasteners. They have made substantial increase in production.

Sugar—India is the largest sugar producing country in the world. The per acre yield in India—15 to 25 tonnes, compares, most unfavourable with the yields of 62 tonnes in Hawaii and 56 tonnes in Indonesia. The important cane growing and sugar-producing State are U.P., Bihar, Punjab, Maharashtra, Andhra and Tamil Nadu. The first two alone contribute more than 70 p.c. of the total production. Approximately 55 p.c. of the total cane produced in India is utilised for gur and Khandasari. Only 25 p.c. goes to the mills for the manufacture of crystal sugar. It is India's second largest industry, next only to textile.

Indian sugar is of three forms—jaggery, khandasari and white sugar. Of these the simplest is jaggery, being merely cane-juice boiled and solidified. Khandasari sugar is made through an indigeneous process by the molasses being separated from sucrose. White sugar is directly produced in the factories in India.

The responsibility of sugarcane research rests mainly on the *Indian Central Sugarcane Committee*—A chain of sugarcane research stations have been established in various States. The establishment in 1936 of the *Indian Institute of Sugar Technology* at Kanpur is a great contribution to the causes of sugar industry.

The three main by-products of sugar industry—bogasse, pressmud and molasses—are used as raw materials by a number of industries. Bogasse is widely employed in the manufacture of paper-pulp and card-board. Considerable work is

being done in respect of extraction of wax from pressmud. Similarly, molasses is used in the manufacture of aconitic acid, industrial and power alcohol, chemicals, tobacco curing etc.

Plywood— This industry is meeting the entire demand of the country for (1) flush doors, (2) black-board, (3) commercial plywood, (4) packing plywood, (5) teacheest plywood, (6) marine plywood and (7) concrete shuttering plywood.

Indian Plywood Industries Research Institute, Bangalore, has field station in Calcutta and another in Assam which are engaged in solving the day to day problems of the industry in the region. The function of the Institute are to develop new adhesives and/or carry out improvement in the known formulation, to rationalise the test procedure and to develop new test methods.

Cycle— Records indicate that the first bicycle, made its appearance in India in 1890. The indigenous industry was sponsored first in 1915 in Madras with German technical assistance but their efforts proved abortive. Between 1938 and 1941, Three manufacturing concerns were started, viz., Indian Cycle Manufacturing Co., Calcutta; Hindustan Bi-cycle Manufacturing Co., Patna; and Hind Cycles, Bombay. In 1949, the Government of India gave permission to establish manufacturing plants to three new units— (1) Cycle Corporation of India which secure technical collaboration from Raleigh Industries; (2) T.I. Cycles of India with technical co-operation from Tube Investment Ltd., and Hercules Cycles Motor Co., of England; and (3) Atlas Cycle Industries. In total, 11 units are engaged in the production of complete cycle, with total annual capacity of 72.80 lakh numbers.

Typewriter— there are at present seven units in production with an installed capacity of 1,66,000 numbers per annum.

Paper and Paper Boards— The beginning of modern industry in India dates back to 1830 when the first paper machine was established in Calcutta by Dr. Carey. This venture failed and the machine was transferred in 1870 to Royal Paper Mills at Bally in Howrah District, which started in 1867. The Upper India Paper Mills, Lucknow and Titaghur Paper Mills, Calcutta, were started in 1882 and 1884 respectively. Both of these began using moonj and sabai grass. Deccan Paper Mills was set at Pune in 1887 and Bengal Paper Mills at Raniganj in 1891. Protection was granted to the industry in 1925 and was renewed periodically until its withdrawal in 1947. The first newsprint mill in India, *National Newsprint and Paper Mills* at Nepanagar (M.P.) went into production in January 1955. It has an installed capacity of 75,000 tonnes per year.

India's biggest paper mill went into production in May 1965 at Amlai (M.P.) Built in private sector at a cost of 17 crores, the mill produces 2,000 tonnes of paper daily.

The Rs. 56-crores integrated paper complex being set up at Mailani, in the Tarai region of U.P. will save Rs. 14 crores a year in foreign exchange when it goes into full production. Biggest of its kind in India the project will produce 200 tonnes of newsprint, 100 tonnes of writing paper and 1100 tonnes of rayon chemical pulp per day. A significant development in the industry is the commissioning of the Cachar Paper Plant, of Hindustan Paper Corporation with an annual capacity of one lakh tonnes.

There are 299 paper and paper-board mills in production in India with a total installed capacity of 28.51 lakhs tonnes. There are at present five units in the country with an installed capacity of 3 lakh tonnes, engaged in the production of newsprint.

Price control on all varieties of paper was lifted on and from May 6, 1968. Central Pulp and Paper Research Institute, Dehra Dun is an autonomous body. Its main objectives are to promote research and other scientific work connected with pulp and paper industry, to establish and maintain laboratories, workshops and conduct experiments.

Leather Hides and Skins—Leather industry in India ranks probably fourth in importance as an earner of foreign exchange. Uttar Pradesh is the biggest producer in the country with 92.33 lakhs pieces of skins and hides per year. It is followed by Maharashtra, M.P., Andhra, Rajasthan and Tamil Nadu.

By far the largest utilisation of leather is in the production of footwear. Footwear produced in this country may briefly be classified into two categories; (1) Western types and (2) Indian Types. The industry is organised mainly on a small scale, although there are a few big tanneries in Madras, Kanpur, Calcutta and Bombay. There are at present more than 800 tanneries in the country. 377 of these units produce finished leathers also. Exports of E.I. tanned hides and skins, picked goat skins, tanned reptile skins, goat hair and tanning materials from India earn a substantial amount of foreign exchange.

Tanning—with a cattle population of about 20 crores which is nearly three times than that of U.S.A. India Produces about 2 crores of cattle hides per year. In India, there are about 7.5. crores of goats and 4 crores of sheep, producing about 3.5 crores of goat skins and 1.7 crores sheep skins per year. Tanning industry is organised mainly on a small-scale basis. For the facilities, for training, in addition to the regional training institutes functioning at Bombay, Madras, Calcutta and Jullundhar, a *Central Leather Research Institute* was established in Madras in January 1953. The Leather School of Kanpur is a Government institute offering facilities for higher technical training.

Medical Instruments—manufacture of electro-medical equipment has been a recent development in the country. Major items which are manufactured indigenously and X-Ray equipment, ECG Machines, Bed Side Monitors, EEG, Infraphil Lamp and Electro-sergical equipment. Production of whole body scanners and brain scanners was recently started in the organised sector.

Rayon—This industry was started in India after the World War II. The first mill started in India was *Travancore Rayon Ltd.* in 1950. Viscose rayon today remains the lowest-price synthetic and has been accepted widely in all fields of textile interest. The main raw materials for production are sulphuric acid and rayon caustic soda, which are now being produced in India. Exports of Rayon and synthetic textiles are substantial.

Silk—This industry in India, which dates from ancient times, at one time was of very great importance but it was decaying industry afterwards. The World War II proved grand incentive to its revival. Sericulture industry occupies a prominent place among the village and small-scale industries in India. Nearly half the quantity of raw silk is produced in Karnataka, followed by Assam, West Bengal, Tamil Nadu, Jammu and Kashmir.

Non-mulberry raw silk is used almost wholly for civilian fabrication purposes, whereas mulberry raw silk has vital importance in defence services of the country as dropping silk parachutes.

The Government of India have been giving tariff protection to sericulture industry since 1930. For the promotion and development of sericulture and silk industry and to co-ordinate research, a *Central Silk Board* was established in 1949 under the Central Silk Board Act IX of 1948. The Board's main activities are to provide fund, in the form of either grants-in-aid or loan for the execution of silk schemes by the State Governments and technical know-how to personnel of the States' sericulture departments.

The *Central Silkworm Seed Station* at Srinagar was established in 1958 for dispensing with the needs for imports from abroad. The *Central Tasar Silkworm Seed Station* was set up at Lakha (M.P.) in 1964, to cater to the needs of *tasar*

industry in regard to basic seed of *tasar silkworm*. The *Central Sericulture Research Station* was established at Berhampore (West Bengal) in 1943, with a sub-station at Kalimong. It conducts experiments and research for development in the various branches of sericulture. There is an *All India Sericulture Institute* at Mysore for giving practical as well as theoretical training to personnel engaged in sericulture industry.

Industrial Gases— The production includes oxygen, nitrogen, carbondioxide, helium, argon, freon gases, speciality gases, speciality gas mixtures and nitrous oxide. Of these gases, Oxygen gas is considered of paramount importance.

Industrial Explosive— The production of industrial explosives (non-permitted type) and safety fuse has been adequate for meeting the entire requirement of the country.

Sewing Machine— The first factory for the production of sewing machines in India was started in 1937. A noteworthy feature of this industry is that all component parts are now made in the country. The exports of these India made machines are gradually increasing and imports are considerably decreasing every year. There are seven units in the organised sector for the manufacture of domestic and industrial sewing machines with an installed capacity of 5,93,000 nos.

Wool— India produces million pounds of wool annually. The major portion of the clip is hairy and coarse and includes a considerable quantity of coloured produce. The yield of wool varies from 3/4 of a pound to 4 pounds per sheep per year.

The wollen hosiery industry in India consists of small-scale units, the bulk of which are located at Ludhiana and the remainder dispersed over Uttar Pradesh, West Bengal, Delhi and Maharashtra. Woollen textiles are only part of the entire wool industry. The other important sectors are carpets and woolen hosiery. Other types of coarse products made of wool are tough blankets, towels, fur-coats and bundles, felt and hair belting for machinery.

Carpets— Carpets are India's best products in wool. Carpet-making is an organised industry. The main centres of products are Amritsar, Agra, Gawalior for better classes of carpets; Kashmir for cheap qualities; Mysore, Bellary, Bangalore and other places in the South for the druggests.

Cement— The manufacture of portland cement in India began in 1904 in Tamil Nadu State but the project failed. Nine years later, a small factory was started at Porbandar and soon after, factories were built in Lakheri and Katni. The Indian Cement Manufactures Association was formed in 1926. In 1927 the Concrete Association of India was formed to popularise the use of cement and in 1930 the Cement Marketing Company of India was formed to take over the sale of the output of member companies. There are at present 35 factories in India, producing about one crore tonnes of cement annually. The industry is mainly localised in Bihar, M.P. Tamil Nadu and Orissa. The installed capacity at the cement industry is 58.35 million tons at present.

The Cement (Quality Control) Order was issued at 1962, to prevent possible adulteration of cement. With effect from January 1, 1966 all Central and State controls on cement were withdrawn.

Cement Research Institute of India is an R & D Institute at the national level devoted primarily to intensive and co-ordinated research in the field of manufacture and utilisation of Cement.

Refectories— This industry has units in the medium and small scale sector and is mineral based and labour intensive. It is an important feeder industry to critical industries like Iron and Steel, Cement, Glass and Fertilizer.

Ceramics—are said to be oldest of industries, and also an ancient art in India. There are now some 53 ceramic factories in India, including those producing insulators. There has been much progress in the production of ceramics notably in the field of white wares, sanitary-ware, glazed tiles and high-tension insulators. These are located over a fairly wide area but the majority of them mainly centre around M.P., West Bengal, Maharashtra, Tamil Nadu and Karnataka.

Paint, Vernishes & Enamel—The Indian Paints Industry consists at producing industrial coatings and decorative paints. Decorative paints accounts for 70% of the country's total production.

Rubber Goods—manufacturing industry in India has been able to achieve self-sufficiency in respect of practically all the important items made out of rubber. Apart from 400 smaller units, there are at present 119 organised units in the manufacture of wide range of rubber goods.

In India, beginning of the rubber industry can be traced back to 1920 when a general rubber goods factory was established in Calcutta for the manufacture of moulded goods. Manufacture of tyres and tubes which accounts for nearly 65 to 75 p.c. of the total consumption of raw rubber, commenced in India in 1936 when a factory at Sahaganj in W. Bengal went into production. Raw rubber is the principal raw material used by the rubber industry.

The rubber goods manufacturing industry in India covers the manufacture of 130 diverse items. About 85 p.c. of the raw rubber is consumed by the three important items, namely, automobile tyres and tubes, bi-cycle tyres and tubes, rubber footwear, conveyor belting, rubber hoses and contraceptives.

Match—manufacturing hardly existed in this country before the World War I. A considerable expansion of the industry, was however, made after the imposition in 1922 of a revenue duty on imports which was converted in 1928 into protective duty. The effect was so conspicuous that the foreign exporters ceased to export and a big Swedish match combine came to India and established many factories at Bareilly, Ambarnath, Calcutta and Madras, under the name and style of the Western India Match Co. Ltd.

At present, there are 62 match factories registered under the industries (Development and Regulation) Act. Except for sulphur and phosphorous, the other raw materials for this industry are now available indigenously.

Glass—manufacturing forms an important industry in India. Most of the glass factories are located in West Bengal, Maharashtra and U.P. The total capital investment in the 123 units is Rs. 12 crores. These factories produce glassware valued at Rs. 18 crores. Very recently, blown glass, fibre glass and optical glass have begun to be produced in India. The progress India has made in glass technology in the last decade is largely due to the researches conducted at the Central-Glass and Ceramic Research Institute, Calcutta.

Soaps and Synthetic Detergents—61 organised units are manufacturing soaps in the country, besides many smaller and cottage units. Nearly one-third of the organised units are in Maharashtra, West-Bengal stands second with 21 units. The raw materials that go in the production of soaps are vegetable oils and tallow, (including resin), caustic soda, sodium silicate and perfumery.

Watch—Industry includes making of mechanical and quartz analogue watches. The installed capacity is 19.78 million watches. Presently, 13 units with an annual capacity of 14.2 million nos of wrist watches are in production. Production in the small scale sector was around 2 million nos per annum.

Automobile—The first motor car was imported into the country in 1898. The first India-made car, manufactured by Hindustan Motors Ltd., moved out of the assembly by the end of 1948.

There are at present 6 approved manufacturers for automobiles in the country,

viz., Hindustan Motors, Calcutta; Premier Automobiles, Bombay; Mahindra and Mahindra, Bombay; Asoké Leyland, Madras; Standard Motor Products, Madras. and Tata Locomotive and Engineering Co., Bombay. Two automobile diesel engine manufacturers, Simpson & Co., and Automobile Products of India, were approved of in 1955. On the recommendation of the Tariff Board, the Government have given protection to this industry for a period of 10 years.

Plastics— Industry is comparatively new in India. It is centered mostly in the Bombay, Amritsar, Bangalore, Delhi, Kanpur and Madras areas. Rapid progress has been made in the plastics industry. India is now in a position to export plastic goods. The plastics industry in the country is now producing raw materials and processed goods. All types of moulded plastic goods are being produced to meet the growing demand for consumer goods and industrial components. There is a Plastics and Linoleum export Promotion Council.

Tobacco— The Government earn Rs. 160 crores annually by way of excise duty, agricultural cess and customs revenue. Though the bulk of the tobacco produced in India is consumed within the country about 48,111 tons of unmanufactured tobacco valued over Rs. 96 crores is exported more than 60 countries in the world. About 90 p.c. of the exports is made up of cigarette, tobacco. Among the different varieties of tobacco consumed in the world, the bidi is a product which is typically Indian in origin, and India holds a monopoly in its exports. The total production of bidi is in approximately Rs. 1,135 million.

Coir— Means fibre extracted from the husks of a coconut. India is the world's chief producer of coir and the sole produce of coir yarn and mats and matings and carpets from coir. The coir industry is mainly concentrated in Kerala and employs 6 lakhs of workers now. It has been much diversified and mechanised. 8 Rubberised Coir Mat Plants have been set up for producing rubberised coir upholstery and packing material for delicate instruments and they are distributed in the States of West Bengal, Tamil Nadu, Kerala, Karnataka, Orissa and Punjab. The largest factory is situated at Konnagar in West Bengal. Two principal types of coir fibre and the mat fibre and curried fibre. The bulk of the output consists of mat fibre. A research institute at Kalavoor, nearly Alleppy (Kerala) and a regional research station and model factory at Uluberia in Howrah district of West Bengal have been set up.

A *Coir Board* was established under the Coir Industry Act, 1953. The development of coir industry and the population and promotion of coir products in India and abroad is the responsibility of the Coir Board. It levies a customs duty on all coir fibre, coir yarn and coir products exported from India.

Sports Goods— At present, sport goods industry is predominantly concentrated in the northern region of the country at Jullundur and Meerut. Other centres of this industry in the northern region are Delhi, Batala and Patiala (Punjab), Agra, Lucknow and Allahabad and Jammu & Kashmir. The raw materials for these goods are willow and mulberry wood, which are produced in Kashmir and in other parts of the country. The manufacture of sport goods is a cottage industry.

Cashew— industry plays an important role in the economy of India. The quantity of cashew kernels exported every year is substantial.

Processed Food— Processed food items are exported substantially. These items include canned & bottled fruits and vegetables, pickles, chutneys and condiments, canned & frozen meat and poultry products, malted milk products, icecreams, confectionery, biscuits, starch and its derivatives, guar gum, soft drink, beverage base, wheat bran, butter and ghee, coca products, walnuts, scented supari etc.

Biscuits— The country produces all her requirements of biscuits and confectionery. In the organized sector there are 40 factories capable of producing 30,000

tonnes of biscuits a year. As for confectionery, the organised sector consists of 44 factories with a production capacity of 50,000 tonnes a year. Recent shortage in wheat and sugar has hit the industry considerably.

Lac—Lac is the resinous secretion of species of insect, *Lecetifer Lacca*, generally known as the Lac insect. The insects are parasites of certain trees in India. The most important host trees are palas, be and kusum. The leading lac-producing States in India are Bihar, Madhya Pradesh and West Bengal. Portion of Maharashtra, Orissa and Assam. In West Bengal, it mainly grows in Murshidabad, Malda, Bankura and Purulia district. The lac, secreted from the glands of lac insects, is converted into sticklac is processed into shellack, by either indigenous method or hydraulic pressure method or Soviet process method. The principal uses of the processed products of stick and shellac are in manufacture of gramophone records, varnishes and polishes, electrical goods, mats, printing and paper, sealing wax, cement and adhesives etc. The research is being carried on by the India Lac Research Institute at Namkum (Ranchi).

The average production of lac in India is 30.35 thousand tonnes. A considerable quantity of lac is exported every year.

Vanaspati Industry—was first introduced in India after the World War I by imports from Europe. The first vanaspati factory in India was established in 1930. The Government helped the industry by giving it protection. Vanaspati is mainly made from groundnut oil and also from cotton seed oil. In 1944, the Government of India introduced legislation to control the industry appointing an officer by the Vegetables Oils Products Control Order. Under the regulation quality has been standardised and new factories have to obtain permits before starting production.

PLANTATION INDUSTRIES

In India, tea, coffee and rubber plantation together cover about 6.4 p.c. of the cropped area and are concentrated mainly in the north-east and along the south-west. They provide employment to over 12 lakh persons.

Tea—Between 1834 and 1865 tea was cultivated in Government plantations. Since 1865, tea plantations were mainly financed and managed by European business firms. Tea plantations number more than 8,000. Tea ranks after jute as the largest item in India's export trade. India earns from the export of tea foreign exchange amounting to Rs. 592 crores a year. Northern India accounts for 80 p.c. of the total Indian production. The tea plantation of South India are concentrated among the three States—Tamil Nadu, Kerala and Karnataka. But the State of Assam has the highest concentration of plantations.

There is a Tea Board which administers the Tea Act of 1953. The Board is also responsible for the regulations and control of the sale of tea by auction or otherwise, registration and licensing of brokers and blenders and the quality control. It is financed by a cess collected by the export of tea.

Tea Trading Corporation of India Ltd.—has been set up in Dec. 1971.

Coffee—is one of the major plantation industries of India. Practically all coffee is grown in South India in the States of Kerala, Karnataka and Tamil Nadu; only a small quantity being grown in Bihar. The main species of coffee grown in India are Coffee Arabica noted for its quality and Coffee Robusta which has better resistance to pests and diseases, yields more and is cheaper to produce. The cultivation of Leberja Coffee is negligible. The major part of the acreage under coffee, 75 p.c. approximately, is claimed by Arabica variety.

Under the Indian Coffee Marketing Expansion Act, India Coffee Board has been

constituted which is responsible for evolving a system of regulated and co-operative marketing of coffee.

Rubber— chief raw materials for rubber goods are natural rubber, synthetic rubber, reclaimed rubber cord, carbon, black rubber, chemicals, etc. Rubber is mainly grown in the States of Kerala, Tamil Nadu and Karnataka. During the last five years, more than 75 p.c. of the total requirements of natural rubber have been met from indigenous production in South India and the balance is being imported to limited extent. Tyres and tubes account for over 65 p.c. of the overall use of rubber. A factory has been set up at Bareilly for producing synthetic rubber.

Indian Rubber Manufacturers Research Association came into being in 1959. The Association has initiated a number of research projects.

The Rubber Research Institute of India— the Research Department of the Rubber Board, concentrated on need based research activities, on rubber cultivation, crop processing, product manufacture and related aspects.

Cardamom— Small cardamom occupies an important portion among the foreign exchange earning commodities. It is mostly produced in the States of Kerala, Karnataka and Tamil Nadu. An estimated area of 1,05,000 hectares is under cultivation. The production is about 4,000 tonnes. The Spices Board looks after the cardamom industry.

SMALL-SCALE INDUSTRIES

Pattern of Small-Scale Industries— The definition of small-scale industries include all industrial units with a capital up to Rs. 20 lakhs of rupees in plant and machinery irrespective of the number of employees. In respect of an ancillary unit, the investment limit has been raised from Rs. 15 to Rs. 25 lakhs. Keeping in view the escalation in the costs of plant and machinery, Government enhanced the investment limit for small-scale undertakings to Rs. 25 lakhs and in the case of ancillary undertakings to Rs. 45 lakhs and 10 items were withdrawn from the list. The total number of products reserved for exclusive development in the small-scale sector now stands at 832. The inherited skill of the artisans rather than any mechanical or electrical appliances appears to be the main factor, which sustains these industries at the present moment. During the last decade this sector has professed from the production to simple consumer goods to the manufacture of many sophisticated and precision products like electronic control systems, microwave components, electro-medical equipments, T.V. sets, etc. During 1987-88 production from small-scale industries is estimated to be around Rs. 72,880 crores providing employment to over 107 lakhs persons and exports from the sector and estimated at Rs. 3,647.9 crores representing about 22% of the total export of the country.

The development of industries, more particularly cottage and small-scale industries, is the primary responsibility of the State Government although the development of some large-scale industries and the co-ordination of cottage and small-scale industries have been recognised to be a part of the Central Government's responsibility.

To supplement the efforts of the State Government's the Central Government have set up the following bodies— All-India Khadi and Village Industries Commission, All-India Handicrafts Board, All-India Handloom Board, Small-Scale Industries Board, Coir Board and Central Silk Board, Financial assistance to small

industries given by the Government State Financial Corporation and banking institutions including State Bank of India is as follows:— (1) Financial assistance to small industries; (2) Sanction for the establishment of Industrial Estates; (3) Industrial Extension Service for technical assistance to small industries; (4) Establishment of National Small Industries Corporation 1955; (5) All-India Handicrafts Board has been established for improvement of production and marketing of handicrafts in India and abroad.

The Central Government gave loans to the State Government for establishing *Industrial Estates* which seek to remove small industrial units from urban and provide them new sites with factory space and common facilities for efficient working.

A programme of technical assistance to small industries known as the Industrial Extension Services has been undertaken directly by the Central Government. 16 small industries service institutes, 6-branch institutes and 65 extension/production training centres have been set up. The Service provides economic information and training facilities.

The Government make special efforts to encourage the Industrial Co-operative in launching new industries, particularly the village and small industries sector.

The *Invention Promotion Board* which is entrusted with the promotion of the inventive spirit among the independent workers, artisans and technicians has been successfully functioning.

Another significant development was the establishment of the National Small Industries Corporation in Feb. 1955.

An All-India Handicrafts Board was set up in 1952, to improve production and marketing of handicrafts in India. The Board is running 15 pilot centres. There are also 4 design centres and 4 regional offices to provide assistance in designing and other activities. About 150 emporia have been set up all over India for effective marketing of handicrafts.

The salient features of the Board are : (1) Marketing ; (2) Quality control ; (3) Publicity ; (4) Design-development ; (5) Planning and Research.

Publicity abroad through exhibition and other media is being conducted by the Handicrafts and Handlooms Export Corporation of India Ltd.

Coir industry is mainly carried on cottage industry basis, though small factories employ wooden looms worked by manual labour. Of the estimated annual production of 2.01 lakh tonnes coir, yarn, more than 90 p.c. is produced in Kerala. The Coir Board is engaged in popularising and promoting coir products in India and abroad. Two research institutes at Kalavoor, near Alleppy (Kerala) and Bangalore in Karnataka and a regional research station and model factory at Uluberia (West Bengal) have been set up.

The *Central Silk Board* was constituted in 1949, to look after the promotion and development of sericulture and silk industry and to co-ordinate research.

Setting up a *Central Tasar Research Station* at Ranchi and a *Central Tasar Silkworm Seed Station* at Lakha (M.P.) have been completed. The *Central Silkworm seed Station* at Srinagar is also engaged in evolving new strains of silkworms.

The *Central Sericulture Research Institute* at Mysore and Hill Rearing Station at Cooner (Tamil Nadu) continue to work.

There is also an *All-India Sericulture Training Institute* at Mysore, which provides practical and Theoretical training to personnel engaged in the industry. The *Central Sericulture Research Station* at Berhampore (West Bengal), with its sub-station at Kalimpong, conducts experiments and research to bring economy and improvement in different stages of production.

Small Industries Extension Training Institute at Hyderabad and *National Design Institute* at Ahmedabad undertake training, research and service programmes in their respective fields.

Exports of Handicrafts— The handicrafts we export cover a wide range of articles, from costly jewelry and gems to inexpensive agarbattis and bangles. Broadly, they fall into three groups— artware, textiles and other fabrics, and utility and decorating articles. Some of the more popular items are: woollen carpets, rugs, hand printed textiles, art metalware and precious stones. India is exporting handicrafts goods worth several crores of rupees every year.

Khadi & Village Industries— The responsibility for the development of Khadi and Village industries which help in relieving unemployment and underemployment in rural areas are vested in Khadi and Village Industries Commission. Financial assistance to khadi industry is given by the Commission through co-operatives societies, registered institutions, the State Government and the statutory boards set up by the State Governments. The rebate system introduced to encourage the production of khadi, was discontinued and a new scheme has been introduced. The new scheme ensures supply of cloth of spinners in villages, who also grown cotton practically without any charge. The non-grower spinners also would benefit in as much as they would get cloth at the nominal rate of 37 paise per square yard.

A four-spindle manually operated charkha, known as Amber Charkha was evolved in 1956. a programme for the manufacture and distribution of this type of charkha, and for providing training to instructors, carpenters, spinners and others was introduced in 1956-57. The overall production of Khadi and Village Industries during 1987-88 is Rs. 1,488.89 crores as compared to Rs. 1,316.72 crores in 1986-87, an increase of about 13%. Employment opportunities were provided to about 41.80 lakh persons. The total sales of Khadi and Village Industries were Rs. 1040 crores as against Rs. 921 crores in the preceding year.

Bidri Works— "Bidri" is named after Bidar the place of its origin. the basic material in the manufacture is an alloy mostly of zinc and copper. Pure gold or silver in sheets or wires are hammered and inlaid into carves of inland designs. This alloy which is of leaden colour, turns into jet black and forms a contrasting background to the silver or gold design. Articles, such as cigar and cigarette boxes, ash-trays, vases, powder-boxes, trinket boxes, bowls, etc. are being manufactured.

Filigree— Filigree works is an indigenous art of Orissa. It is also prevalent in Hyderabad, Kashmir and West Bengal. Charcoal and silver solders are utilised for soldering the work. The types of products are ash-trays, bangles, betel-boxes, buttons, caskets, cigaret-boxes, flower vases, necklace, car-tops, powder-boxes, etc.

Fulkari— is the general name given to the famous Punjabi shawls known as 'Bagh' and 'Fulkari'. Fulkari means flower crafts and Bagh a garden. The embroidery is done with soft untwisted silk called part, on plain coarse khaddar. The motifs and design are both rich colourul and attractive with endor pallas of exquisite workmanship. The whole sheet of khaddar gets covered like a garden in full bloom and presents gay floral appearance.

Horn Artides— the horn industry is an indigenous cottage industry of Orissa. It is now largely found in Kerala, Orissa, Maharashtra, Andhra Pradesh and West Bengal. The main raw material is buffalo horn, though horns of deer and bisons are also used.

Ivory work— Ivory carving is an outstanding handicraft in many States of India,

chief of them being Kerala, Hyderabad, Karnataka, Tamil Nadu, West Bengal, Delhi and Rajasthan.

Nirmal Work—The toy industry of Nirmal in Adilabad district is peculiar to Andhra Pradesh. These toys are made of 'burgu' and 'runki' which are very light in weight and are easily workable. The products consist of vegetable and fruit trays, bangles, lampstands, cigar and cigarette-boxes, ladies shoeheels, etc.

Metal Artwares—are the polished brass with engraving or enamelling of Jaipur, Kashmir, Moradabad and Banaras; the brass, copper and bronzecast images and wrought pieces of Madurai and Tanjore with edged or encrusted art. The other articles are flower vases, candlestick, decanters, finger bowls, mythological motifs are some of the numerous instances of this distinguished art. The other articles are flower vases, candlesticks, decanters, finger bowls, fruit dishes etc.

Inlay Work—One of the most distinctive handicrafts in India is inlay work. This flourish in a few place, such as Agra, Delhi, and Fatehpur Sikri in the North and Karnataka and Kerala in the South. In North India craftsman generally use only ivory for inlaying on woods, but in Karnataka they use teakwood, brass, silver, coloured stones, etc.

STATE COTTAGE INDUSTRIES

Andhra Pradesh—Handloom is the most important cottage industry in Andhra Pradesh. The State has the largest number of looms in India. Other important cottage industries are Kumble weaving, coir making and basket making. Among the handicrafts, notable are : (1) Exquisite toys made in Kondapalli, Nirmal, Nokkapalli and Tirupati. (2) Carpets of Warangal and Eluru are really of the pride of Andhra Pradesh. They are woven from silk, cotton or woollen yarn. (3) The art of fabric printing in Andhra Pradesh is unique in character. (4) Articles matweaving industry is carried on in Mahabubnagar district. (5) Bidriware of Hyderabad. The basic material is an alloy of zinc with small proportions of other nonferrous metals.

Assam—Handloom weaving is the largest and the most important cottage industry in Assam. Assam is noted for her non-mulberry silk viz., Endi and Muga. Muga is a light-brown silk used in summer and winter. The bulk of the production of raw muga silk is done in a village named Sualkuchi on the northern bank of the Brahmaputra. Muga silk is produced by a kind of caterpillar which feeds of the leaves of som and salu trees. Endi is a rough cream coloured silk used in winter, as it is warm. The warm feed on eri (castor) seeds. The most famous of the Assam fabrics are those produced by the tribal people in the hill districts. Among the Assam fabrics which are popular outside the State, are bed-covers, table-cloths, sarees, mekhalas and furnishing materials.

Bihar—The cottage industries in the State in order of their importance are handloom weaving, steel goods and cutlery, tanning and leather manufacture, pottery, jewellery, non-ferrous metal wares. This is the only State which produces shell buttons from the mother-of-pearl.

Delhi—Among the important cottage industries of Delhi are leather, gari and zardozi, ivory-carving, cane and bamboo baskets, calico printing, plastic goods, paper products, brasswares, wood work, artificial limbmaking, solahats, imitation jewellery, gold and silver jewellery, locks, tin containers, buttons, soaps, taxidermy, thread balls, gas mantles, wooden scales, surgical goods, sports goods and metal works.

Gujarat—is famous for tanning and leather goods, brass utensils, iron and steel articles. In addition to these, weaving of cotton and wool is an important industry in this state.

Himachal Pradesh—the only cottage industries of this State are cotton hand-spinning and handloom weaving and woollen hand-spinning and hand-weaving Sericulture industry exists in all districts.

Jammu & Kashmir—The cottage textile industry, covering mainly wool and silk is an important industry. In the textile industry, the products worth monitoring are: tweeds, gabba, pattu, pile, carpet, namdas and shawls (Pashmina and toosh). The other industries in the State are furniture made of walnut, cane and vilow works, wood-carving, papiermache work, jewellery and stone polishing.

Karnataka— is one of the leading State in the field of cottage industries, Handloom industry is the foremost industry of the state. The most famous of its textile products are silk saree, blankets, carpets, druggest and silk in running length. The other industries in the order of their importance are sericulture, and products including carving and inlay on ivory, sandal wood, rosewood, metal glass bangles, incense and perfumery, leather goods, steel goods, soap, woodenclay and lacquered toys and food processing.

Kerala— Great stride has been made with regard to some cotton industries, such as handloom textile, coir and coir mattings, grass and screw pine, mats, ivory, wool products etc.

Madhya Pradesh— Handloom industry is the most important in this State. The products well known throughout the country are the chanderi and maheswari sarees. The other industries of some importance are: tanning and leather works, confectionery, fruit canning, brass and copper utensils, oil and soap. The handweaving industry is the only important cottage industry of Bhopal.

Maharashtra— Handloom weaving industry is the most important cottage industry of Maharashtra. The industries in order of importance are : tanning and leather, vegetable oil, hand-made paper, ivory, horn and wood-carving, non-ferrous metal-wares. The other industries are cutlery, jewellery and match.

Manipur— Handloom weaving industry is the most important cottage industry in this State.

Orissa— Handloom industry is a noted industry of Orissa. The other noted industries are silver filigree, ivory, horn and soapstone, tanning and leather goods and wooden utensils. Horn carving is a famous old craft of Orissa.

Punjab— The important industry of Punjab is Handloom industry; and the most noted textile products are furnishing fabrics, blankets, and hosiery. The other important industries are furniture, woodcarving, jewellery, food processing, sports goods, non-ferrous metal-wares and a variety of steel and engineering goods, leather goods, bangles. Carpet-making is also an important industry of Punjab.

Rajasthan— The handloom industry is, of course, the most important of all. Its noted textile products are printed sarees and scarves, tie and dye, carpets and niwar. Rajasthan is the biggest wood-producing State in India. Jodhpur and Jaipur art famous for the manufacture of embroidered shoes. Jaipur produces the best type of brass work in India. The other industries are art products papiermache, marblestone, buttons, furniture, ivory work, leather goods and toys.

Tamil Nadu— This is the most important handloom-weaving State in the country. The most handloom cotton products are sarees, dhoties, towels, sheetings and coating. The other industries in order of merit are hosiery, carpets, druggets and cumbles, printing, tanning and leather goods, food processing, non-ferrous metalwares, toys and steel goods.

Tripura— Besides handloom textile, the other industries are cane and bamboo work, coir matting, oil pressing, carpentry, smithy, pottery, bidimaking.

Uttar Pradesh— Silk industry produces gold and silver thread brocades, silk sarees and scarves. Mirzapur carpets are produced in wide and varied design. Dyeing and cloth-printing is a flourishing industry in Lucknow and Furrukhabad. Moradabad is famous for ornamental brassware. The manufacture of glass bangles, which is one of the important cottage industries in this State, is made at Ferozabad. Khurja glaze pottery is now known all over India. Another important

industry is fibre industry, i.e. making of baskets, chairs, cane furniture. **Gur-making** is the biggest cottage industry in U.P. Other cottage industries of U.P. are zari and embroidery of Agra, pakki kela of Moradabad, blankets of Nazimabad and Almora, sports goods of Meerut and gold threads of Varanasi. Kanpur is the main centre for the manufacture of chappals in northern India.

West Bengal—The most famous textiles products of West Bengal are silk and cotton sarees and dhoties. Other industries are jute and wood-weaving, sericulture, tanning and leather goods, brass and bellmetal utensils, sports, ceramics, cutlery, furniture, and products including horn, ivory and wool.

CURRENCY & EXCHANGE

Indian currency system is controlled by the Government of India so far as metallic currency is concerned and by the Reserve Bank of India in respect of paper currency. India is the only currency authority in India.

Gold Parity Standard—India has now gold parity standard due to India's membership of the International Monetary Fund. India has to maintain a fixed quota of gold bullion and dollar currency with I.M.F. and the international value of India's currency is determined by I.M.F. with reference to the purchasing price of Indian rupee in terms of gold. The external value of Indian rupee is maintained at a fixed level by the Government of India with the approval of I.M.F.

Indian Rupee—is a metallic coin as well as paper money. Rupee notes are not like other notes which are issued by the Reserve Bank of India and carry the "promise to pay on demands" notice. Rupee notes occupy the same position and status as rupee coins and therefore are issued by the Government of India.

Exchange Rate—Indian rupee is convertible into currencies of other countries at a rate of exchange decided in consultation with I.M.F. The exchange is now expressed in terms of all the world currencies.

International Monetary Fund—This institution helps to fix the relative value of different currencies of the world. India fixed the value of her currency in terms of gold. By the same method, the value of Indian rupee in terms of other currencies of all other countries was fixed directly instead of through sterling. This monetary standard is known as the international monetary standard.

Inflation and Definancing—The general price level of a country is determined by the amount of circulation of currency. If the volume of money supply increases disproportionately inflation and rising prices are created.

It should be realised that money in circulation paid for goods and services are available to the community. The increase in the amount of money in circulation without a simultaneous increase in goods and services leads to inflation. In the case of deficit financing the rise in prices is inflationary.

Currency Note Press, Nasik Road—This Press prints and supplies currency notes of Re. 1 denomination and bank notes of Rs. 2, Rs. 5 and Rs. 10 denominations. During 1987-88, it printed 4851 million pieces of notes in these denominations. The production during the first 9 months of 1988-89 was 3614 million pieces.

Bank Note Press, Dewas—This Press consists of 2 production units namely the printing press for printing the higher denomination bank notes of Rs. 20, Rs. 50, Rs. 100 and Rs. 500. The second production unit manufactures security inks which are used in the security printing presses in the country.

During 1987-88, 2059.54 million pieces of notes were printed and during the first 9 months of 1988-89, 1448 million pieces were printed. During the remaining 3 months of 1988-89, the expected production is 502 million pieces.

New Note Press — A decision, in principle, has been taken to set up two New Note Press, one at Salboni in West Bengal and the other at Mysore in Karnataka in order to meet the requirement of Bank Notes.

Security Paper Mill, Hoshangabad — The Security Paper Mill Hoshangabad was commissioned in 1967-68. It manufactures paper for making currency notes/Bank notes and other security paper required by Bank Note Press, Dewas, Currency Note Press and India Security Press, Nasik Road. During 1987-88 the mill produced 3933.62 metric tonnes of paper. The expected production during 1988-89 is 4200 metric tonnes of which 2615.5 metric tonnes were produced during the first eight months of the year.

MINTS :

The production of Coins of the three Mints are given below :

India Govt. Mint, Bombay— During the period from 1.4.88 to 30.11.88, 718.048 million pieces of coins of different denominations have been struck as against the pro-rata target 627 million pieces based on the target of 940 million pieces fixed for the year 1988-89.

India Govt. Mint, Calcutta— As against the target of production for 1988-89 of 900 million pieces, the Calcutta Mint as on 12.11.88, has produced 693.16 million pieces.

India Govt. Mint, Hyderabad — Against the targetted production of 490 million pieces during 1988-89, 350.15 million pieces have already been produced upto October, 1988.

India Govt. Mint, Noida— A new Mint at Noida (U.P.) has been established with the annual capacity of 2000 million pieces of coins of various denominations. The Mint at Noida has started Commercial production of coins of various denominations since July, 1988.

Circulation of Notes— Valued at Rs. 33,812 crores in 1987-88.

Circulation of Rupee Coins— Circulation of rupee coins, the bulk of which comprises one-rupee notes issued by the Government of India was Rs. 839 crores in 1987-88.

Circulation of Small Coins— The total mintage of decimal coins since the introduction of decimal coinage in 1987-88 amount to Rs. 511 crores till end March 1988.

Lost, Destroyed and Mutilated Notes— The number and value of claims in respect of notes admitted during 1987-88 amounted respectively to 2,80,41,074 pieces and Rs. 22.95 crores.

FINANCIAL INSTITUTIONS

Governmental Financial Institutions — Since independence a number of specialised financial institutions have been set up to provide long term credit to industry and to co-ordinate and augment the facilities for industrial growth.

These requirements of finance, can be broadly classified into three categories, i.e., long-term, medium-term and short-term according to the duration of credit required. Long-term finance, is necessary for the buying machinery, provisions of land, building factory, etc. Medium-term credit is required for small tools implements, executions of bulk orders, replacements and minor repairs, etc. Short-term credit is needed for a few months or a year for the purchase of raw materials or for financing the processing or for holding stocks of finished article before they are sold, and for making expenses like wages.

In India, both the issues as well as marketing of industrial securities are subject to Government control and regulation. All capital issues, whether in initial or further, have to receive the consent of the government of India, before being put in the market under Capital issues (Control) Act, 1947.

The Marketing of industrial securities is regulated under the Securities (Contracts) Regulations Act, 1947. At present there are 16 stock-exchanges functioning under the Act in various parts of the Country.

During 1987-88 the term-lending institutions (i.e. the IDBI, IFCI, ICICI, IRBI, UTI, LIC, GIC and its subsidiaries. SFCs and SIDCs) sanctioned Rs. 9,337.4 crores and the assistance disbursed to Rs. 6,773.3 crores.

Industrial Finance Corporation of India—The Industrial Finance Corporation of India was set up in 1948 with a authorised capital of Rs. 10 crores. The main objects of the Corporation are: (1) to render financial assistance to industrial concerns for a period not exceeding 25 years; (2) to guarantee loans raised by industrial concerns in the open market; (3) to underwrite the issue of stock, bond, shares and debentures issues by eligible industrial companies.

Recently, the corporation has been empowered to guarantee (a) loans raised by industrial concerns from scheduled Banks and State Co-operative Banks; (b) deferred payments due from industrial concerns with regard to their purchase of capital goods both within and outside the country; and (c) with the prior approval of the Union Government loans raised from the credit arrangements made in foreign currencies by industrial concerns with any bank or financial institution abroad. It can lend up to ten times its paid-up share capital and reserve fund. The Corporation advances loans in foreign currencies also.

The corporation has now power to subscribe directly to the stock of an industrial concern, and also to convert at its option, loans or advances granted debentures subscribed to by it, into stock or shares of the concerns. The Corporation is now also empowered to render financial assistance for the preservation of goods.

State Financial Corporations—There are at present 18 State Financial Corporations set up under the State Financial Corporations Act, 1951. The State Financial Corporations are intended to render financial assistances to small industries not exceeding generally Rs. 29 lakhs to one industry at a time. It continues to extend financial assistance to medium and small-scale industrial undertakings with their respective areas of operation. A State Financial Corporation shall have an authorised capital of Rs. 2 crores. of which Rs. 1 crore is generally issued and paid-up.

The aggregate borrowing limit of a Corporation has now raised from five times to ten times its paid-up share capital and reserve fund. By an amended Act in 1962 the State Financial Corporation are now empowered to guarantee (a) loans raised by industrial concerns from scheduled Banks or State Co-operative Bank and (b) deferred payments due from the industrial concerns in connection with the purchase of capital goods within India.

State Industrial Development Corporations—have been established by a number of State Government in order to accelerate the tempo of industrial growth. In addition to granting loans, issuing guarantee and assisting in underwriting of shares and debentures, some of the SIDCs have been entrusted with the task of developing and managing industrial estates. So far, 11 SIDCs have been set up in the State of Andhra Pradesh, Bihar, Gujarat, Kerala, Madhya Pradesh, Maharashtra, Karnataka, Orissa, Punjab, Tamil Nadu and Uttar Pradesh.

Industrial Credit and Investment Corporation of India Ltd.—was set up in 1955 with a view to rendering financial assistance for the growth and development of industries in the private sector. It is mostly a private concern, its shares capital having been subscribed by the Reserve Bank of India, Indian Commercial Banks and some foreign Banks. It sponsors may also make direct subscriptions to share and debenture of such concerns. It has borrowed from IBRD to extent of \$140 million and \$5 million from USAID. Its authorised capital is Rs. 25 crores.

Agricultural Refinance Corporation—See Index

National Industrial Development Corporation Ltd.—was set up in October 1954. It conceived mainly as an instrument of Government for promoting, establishing and executing industries and to aid assist and finance industrial undertakings. In 1969, the Corporation set up its Technological Consultative Bureau which renders services to the various Government and public sector projects. The Corporation has an authorised capital of Rs. 1 crore.

National Small Industries Corporation—was registered in Feb. 1955 as a private limited company. The Corporation was started with an authorised capital Rs. 10 lakhs which was later increased to Rs. 50 lakhs. It gives financial assistance for the purchase of machinery and equipment to small enterprises. It supplies machinery on hire-purchase system and also some working capital to small industries. The Corporation constructed two model industrial estates, one at Okhla and the other at Naini.

Export Credit and Guarantee Corporation Ltd.—See Index.

Unit Trust of India—To facilitate investment in industrial securities by small investors the Unit Trust was established by the Government of India in 1964 and began its work on July 1, 1964. The Trust has an initial fund of Rs. 5 crores. It has put on sale units of the face-value of Rs. 10/- each. These can be bought multiple of Rs. 10/- each. It is authorised to devise a unit scheme under which the face value of each unit to be issue is not be less than Rs. 10/- nor more than Rs. 100.

The Unit Trust of India recorded substantial progress in various areas of its operation during the year July 1987 to June 1988: The sale units under all the schemes amounted to Rs. 2059 crores during the year compared to Rs. 1261 crores in the previous year. The investible funds of the Trust increased to Rs. 10,019 crores as on 31st December, 1988.

Industrial Development Bank of India—began functioning on July 3, 1964. The Bank co-ordinates the activities of Banks and industrial financing agencies like the Industrial Finance Corporation and the State Finance Corporations. It holds substantial share of the Industrial Finance Corporation and took over on September 1, 1964 the business of the Refinance Corporation of India set up in 1958 to provide refinancing facilities for medium-term loans to industrial units. It is also empowered to grant direct loans to specified projects and finance to export of capital goods produced by newly set-up engineering and other industries. It is a whollyowned subsidiary of the Reserve Bank. It has an authorised capital of Rs. 50 crores which can be increased to Rs. 100 crores and issued capital of 10 crores.

Film Finance Corporation Ltd.—See Index.

Industrial Reconstruction Corporation of India—was set up in April 1971 to meet problems of sick industrial units.

Credit Guarantee Corporation of India Ltd.—Advances guaranteed under the three schemes of this Corporation as on the last Friday of December 1974 amounted to Rs. 530 crores.

Life Insurance Corporation of India—See Index.

DISBURSEMENTS

Institutions	Loans		Underwriting and Direct Subscriptions						Total	
	Rupee Loans	Foreign Currency Loans	Ordinary and Preference/Shares			Debentures				
			1986 - 87	1987 - 88	1986 - 87	1987 - 88	1986 - 87	1987 - 88		
L.D.B.I.	2098.14 (948.26)	2485.93 (933.60)	104.30	152.39	28.20	33.29	1.96	1.19	2232.60 (948.26)	2672.80 (933.60)
I.F.C.I.	346.30	506.60	94.40	127.41	10.90	18.66	—	—	451.60	652.67
I.C.I.C.I.	465.69	547.00	205.32	195.42	9.46	22.70	15.00	6.11	695.47	771.23
I.R.B.I.	94.60	102.31	—	—	—	—	—	—	94.60	102.31
S.F.Cs.	..	..	..	..	..	..	..	..	783.60	928.2
S.I.D.Cs*	..	..	..	..	..	..	..	..	423.60	458.10
Sub-Total	3004.73	3641.84	404.02	475.22	48.56	74.65	16.96	7.30	4681.47	5585.31
U.T.I.	110.66	420.18	—	—	23.31	56.95	283.62	271.97	417.59	749.10
L.I.C.	250.79	289.90	—	—	16.36	27.60	263.60	186.13	530.75	503.63
G.I.C & its Subsidiaries	29.43	25.69	—	—	11.27	21.98	90.90	55.87	131.60	103.54
Sub-Total	390.88	735.77	—	—	50.94	106.53	638.12	513.97	1079.94	1356.27
GrandTotal	3395.61	4377.61	404.02	475.22	99.50	181.18	655.08	521.27	5761.41	6941.58

Note : Data are provisional.

* The break up of assistance into loans & Underwriting and Direct Subscriptions are not available in respect of SFCs, and SIDCs.

Also see 'Notes on the Statements'.

NATIONAL INCOME

Trends in National Income :

As per the Quick Estimates of the Central Statistical Organisation, (CSO), the total national income in real terms (net national product at factor cost at 1980-81 prices) is estimated to have increased by 3.8 per cent to Rs. 1,43,935 crores in 1986-87 as compared with that of 4.7 per cent to Rs. 1,38,611 crores in 1985-86. The real per capita income, however, increased only by 1.8 per cent to Rs. 1,869 in 1986-87, as compared with that of 2.5 per cent to Rs. 1836 in 1985-86. At current prices, the nominal income at factor cost increased by 11.5 per cent to Rs. 2,29,035 crores in 1986-87, as compared with that of 12.2 per cent of Rs. 2,05,436 crores in 1985-86. Similarly, per capita income at current prices went up by 9.3 per cent to Rs. 2,975 in 1986-87, as compared with that of 9.9 per cent to Rs. 2,721 in 1985-86.

The gross domestic product (GDP) at factor cost at 1980-81 prices showed an increase of 4.0 per cent during the year 1986-87 compared to 4.8 per cent in 1985-86. The net domestic product (NDP) at factor cost at 1980-81 prices showed a rise of 3.8 per cent during 1986-87 as against 4.6 per cent in 1985-86.

The modest growth rate in national income during 1986-87 is attributable mainly to a setback in the performance of the agricultural sector. Income generated in this sector (at 1980-81 prices) declined by 3.4 per cent in contrast to a marginal rise of 0.4 per cent in 1985-86. As a result, the share of 'primary sector' in aggregate NDP (at 1980-81 prices) declined from 37.1 per cent in 1985-86 to 34.8 per cent in 1986-87. On the other hand the 'secondary sector' recorded an impressive growth rate of 8.2 per cent for the second year in succession; its share in the aggregate NDP moved up from 25.2 per cent in 1985-86 to 26.3 per cent in 1986-87. In the 'secondary sector', income generated in (i) manufacturing, (ii) electricity, gas and water supply and (iii) construction registered increases of 9.3 per cent, 11.9 per cent and 2.3 per cent, respectively.

The 'services sector' which accounted for 38.9 per cent of NDP in 1986-87, recorded a growth rate of 6.8 per cent in 1986-87, as compared with 6.9 per cent in the preceding year. The marginal decline in growth rate in 1986-87 was due to a fall in the growth rate in the sub-sector 'finance, real estate and business services' from 7.4 per cent in 1985-86 to 6.2 per cent in 1986-87. In this sub-sector, the segment 'banking and insurance' showed a decline in the growth rate from 12.3 per cent in 1985-86 to 9.1 per cent in 1986-87. Income generated in the sub-sector 'transport, communication and trade' showed an increase of 6.6 per cent while the growth rate in the sub-sector 'community, social and personal services' was 7.7 per cent during 1986-87.

NATIONAL INCOME ESTIMATES— Before the formation of the National Income Committee under the Chairmanship of Prof. P.C. Mahalanobis for estimating the national income in August 1949 several attempts were made by individual politicians, economists etc., to estimate the national income of India. Dadabhai Naoroji's estimate for per capita income of India in 1868 was Rs. 20. Findlay Shirras estimated it in 1911 at Rs. 49. Dr. V.K. R.V. Rao's estimate in 1931-32 was Rs. 65 and in 1942-43 it was Rs. 114, the Ministry of Commerce calculated it at Rs. 272 for 1947-48.

The National Income Committee while presenting its report in two parts in 1951 and 1954 adopted the 1948-49 prices mainly for the following reasons :

(i) The year 1948-49 formed the bench-mark year for the official estimates of national income for which maximum data were collected particularly for such sectors which involved income approach.

(ii) The general price level in 1948-49 was fairly stable.

The committee presented sector-wise and year-wise estimates of the national income of the period 1948-49 to 1950-51. Subsequently, the work of estimation of the national income was undertaken by the National Income Unit of the Central Statistical Organisation.

The years 1950-51 and 1951-52 were not normal years. A Working Party set up by the standing Committee of Departmental Statistician in October 1952, examined the feasibility of adopting a common base period for official index numbers and recommended the year 1952-53 as it was a year of more or less all-round stability.

Performance during 1987-88 :

Official estimates of national income for 1987-88 are not yet available. The growth in real national income during the year is, however, tentatively estimated at 2.5 per cent on the basis of available indicators about agricultural and industrial production. Provisional estimates for 1987-88 indicate a marginal fall in agricultural production and a near stagnancy in the growth rate of industrial production in 1987-88.

Trends in Net National Product and Per Capita Income

Description	1983-84	1984-85	1985-86	1986-87	1987-88
1	2	3	4	5	6
1. Net National Product (Rupees Crores)					
At 1980-81 Prices	1,28,922 (7.8)	1,32,367 (2.7)	1,38,611 (4.7)	1,43,935 (3.8)	1,47,559 (2.5)
At Current Prices	1,66,140 (17.6)	1,83,051 (10.2)	2,05,436 (12.2)	2,29,035 (11.5)	2,55,210 (11.4)
2. Per Capita Income (Rupees)					
At 1980-81 Prices	1,781 (5.6)	1,791 (0.6)	1,836 (2.5)	1,869 (1.8)	1,879 (0.5)
At Current Prices	2,295 (15.2)	2,477 (7.9)	2,721 (9.9)	2,975 (9.3)	3,251 (9.3)
3. Net Domestic Product at Current Market Prices (Rupees Crores)					
	1,87,950 (17.0)	2,07,285 (10.3)	2,35,293 (13.5)	2,62,667 (11.6)	2,93,159 (11.6)

- Sources and Notes :*
1. Estimates upto 1985-86 are provisional and for 1986-87 are Quick Estimates by the Central Statistical Organisation, Government of India, Figures for 1987-88 are tentative estimates.
 2. Figures in brackets are percentage changes over the previous year.

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The Central Statistical Organisation releases the quick estimates as soon as possible after the completion of the financial year (April 1 to March 31) and the agricultural (July 1 to June 30). The quick estimate has necessarily to be based on partial data. It is provisional. A revised estimate follows later. The idea in issuing the quick estimate is to give a quick and approximate appraisal of the entire economy in the preceeding year at real terms, that is, at constant prices. Thus it releases two sets of estimates of income namely at current prices and at constant prices of the year 1980-81.

PUBLIC FINANCE

INDIAN CURRENCY— India's currency system is controlled by the Government of India as far as the metallic currency is concerned and by the Reserve Bank of India in respect of paper currency.

The decimal coinage came into force in India from April 1, 1957. In the new set-up the rupee remains as the standard coin and it is divided into 100 units. The unit coin was named Naya Paisa.

From June 1964 there has been some changes in the Indian coinage. Naya Paisa became plain paisa. The coins without adjective are being minted. We have now one paisa, two paise, three paise, five paise, ten paise, twenty paise, twenty-five paise and fifty paise.

COIN OF PAYMENT— The payments in Rupees and Dollars mean that in India you have to pay in Rupees for the things you buy in Rupees. If you go to other countries, you have to pay for your things in the currency of those countries— in England Pounds, in Russia Roubles, in U.S.A. Dollars and so on. You can pay in any other currency if the seller is agreeable.

When India buys any goods from a country, she has to pay for them in the currency acceptable to that country. American Dollar and British Pound are acceptable to most of the countries in the world. The countries that accept the Dollar Currency are known as the Hard Currency Areas and those that accept the Pound and other currency are known as Soft Currency Areas.

There are also countries which accept payment from India in Indian rupees. This money can be utilised only for purchases of goods and services in India. For instance, the U.S.A. gave foodgrains to India under the PL-480 programme on payment in rupees. The rupees thus accumulated were spent by U.S. embassy on purchase of goods and services in India and a portion was given back to India as loan or grant for economic development.

For making payments in dollars, India has to earn dollars. This she does mainly by exporting her goods to the countries which pay in dollars.

INDIA'S PUBLIC FINANCE — Public Finance of India can be divided into three classes— (1) finance of the Government of India. (2) finance of the State Governments. (3) finance of the local bodies like municipalities, district boards, etc. or local Finance. Under the Constitution of India, the power to raise funds is divided between the Centre and the States. According to the Constitution, the Government of India accounts are kept in two separate parts, namely, the Consolidated Fund and the Public Account. All revenues received, loan raised, and money received in repayment of loans by the Union Government from the Fund without the authority of an Act of Parliament. All other receipts and disbursements, such as deposits, service funds, remittances, etc., go to the Public Account, which is not subject to the vote of the Parliament. To meet unforeseen expenses, not provided in the Annual Appropriation Act, a Contingency Fund of India has also been established under Act 267(1) of the Constitution. Similarly, there are Consolidated Fund, Public Account and Contingency Fund for each State.

The Constitution provided for the appointment of a Comptroller and Auditor-General of India by the President to watch on the finances and accounts of the Union and the States. It is his responsibility to see that the expenses voted by the Parliament or the Legislature of a State and laid down in the Appropriation Act are not exceeded and varied. The Constitution also enjoins that the expenditure of each Government should be approved by its Legislature.

Railways have their own funds and accounts and their budget is presented separately from General Budget to Parliament. The appropriations and disbursements of the Railway Budget are also subject to the Parliamentary and audit control. The Railways contribute a net amount to the General Budget. It is a fixed dividend to Central revenues on the capital invested on them.

MINISTRY OF FINANCE—is responsible for the administration of the finances of the Central Government and for dealing with all economic and financial matters affecting the country as a whole. It arranges or raising resources for development and other purposes and regulates the taxation and borrowing policies of Government. It deals all problems connected with banking, insurance and currency and coinage and foreign exchange and it also controls, in co-operation with the other Ministries concerned, the entire expenditure of the Government of India including transfer of resources to States.

The Ministry is organised into three Departments : Revenue, Expenditure and Economic Affairs.

1. **DEPARTMENT OF REVENUE**—is responsible for all Direct and Indirect Union Taxes and for all matters relating to Insurance. An important function of the Department is to advice Government on Fiscal Policy. The Department is also responsible for the administration of the Gold Control regulations. The Department exercises the control, vested in it in respect of revenue matters through two statutory Boards under it, namely the Central Board of Direct Taxes, and the Central Board of Excise and Customs. The former consists of a Chairman and four members while the latter consists of a Chairman and three members. Following are the Direct Taxes—Income Tax, Wealth Tax, Estate Duty, Gift-tax and Sur-Tax. Various changes have been made regarding above taxes. Following are the Indirect Taxes—Union Excise Duties, Customs and Central Excise Duties, Sales Tax and Land Customs Duties.

The Banking Wing is connected with the formulation and implementation of Government policies having a bearing on the working of commercial banks and long-term financial institutions excluding the Life Insurance Corporation and the Unit Trust of India. It deals with all matters relating to the Reserve Bank of India except those which are directly the concern of the Departments of Economic Affairs. The wing has five functional divisions.

2. **DEPARTMENT OF EXPENDITURE**—consists of the following Divisions—Establishment, Defence, Cost Accounts Wing, Plan Finance, Special Cell and Bureau of Public Enterprises.

The Establishment Division is responsible for the administration of various financial rules and regulations including those relating to the conditions of service of Central Governments employees. In addition to rendering financial advice to the Ministries departments (other than Defence) of Government of India it also functions as financial representative of the Government on Boards of Directors of various public sector undertakings and on the governing bodies of autonomous organisations which receive substantial financial assistance from Government. The Defence Division renders financial advice to the Defence Headquarters. The Defence Ministry and to the Officers directly subordinate to that Ministry. Cost Accounts Wing undertakes a number of cost and economic studies and investigates into the accounts of a number of companies both in the private and public sector for purposes of prices fixation, laying down system etc. It renders advice to other Ministries on various cost and price problems. Plan Finance Division deals with State Plans and State Finances with particular reference to Central and State

Legislation having financial or economic implications, advices in regard to State Governments' proposals for investment in industrial enterprises, irrigation, power and flood control projects. It analyses the resources of the State and Central Government. The Division is also associated with scrutiny of proposals of the Central Ministries for large projects. Four Divisions of the Bureau of Public Enterprises—Production, Construction, Finance and General Management—perform the functions relating to co-ordination, assistance and evaluation in the various aspect of the working of Public Enterprises.

3. DEPARTMENT OF ECONOMIC AFFAIRS—prepares the Central Government's Budget, makes periodic assessments of foreign exchange needs and resources and takes necessary steps to mobilise and allocate resources, both internal and external in keeping with the country's plans and developmental needs. The Department is also responsible for policies relating to banking, currency and coinage, capital issues and foreign investments. It is also closely associated with the Ministry of Foreign Trade & Supply in the consideration of matters relating to international trade, particularly in the formulating of policies and regulations governing export and import trade. Besides, the administration of the Securities Contracts (Regulation) Act, 1956 and the regulation of stock exchange are the concern of this Department. The Department has the following Divisions—Budget, Internal Finance, External Finance, Banking Economic Administration and Insurance.

BUDGET DIVISION—prepares the Central Government's Annual Budget (other than that for Railways) and Supplementary Demands for Grants and Demands for Excess Grants for presentation of Parliament. It deals with questions of public debt, market loans, small saving scheme and other investments. It also looks after market borrowings. It administers Contingency Fund of India and carries out recommendations of the Finance Commission and matters of audit and accounting including the question of the duties and power of the Comptroller and Auditor-General. The Division is in overall charge of the National Saving Organisation. The fixation of rates of interest on loans given by the Central Government, the administration of Central Treasury Rules and the submission of reports of the Comptroller and Auditor-General to Parliament are also handled by the Division. Internal Finance Division deals with all matters connected with currency and coinage, banking industrial finance and control of capital issues. It is also responsible for the administration of mints, Assay Offices, the Silver Refinery Project, the India Security Press, the Security Paper Mill Project and the Kolar Gold Mining Undertakings. External Finance and Foreign aid Division is concerned with all matters relating to foreign exchange including exchange control, foreign investments and economic, financial and technical assistance received by India or rendered by her to foreign countries as well as broader questions of policy in regard to foreign trade are examined in this Division. Economic Division advises the Department on questions of economic policy. Administration Division looks after the administrative matters of the Department.

BUDGET—Towards the end of the February every year the estimates of receipts and expenditure of the Central Government for coming financial year are presented to Parliament by the Central Government and before the Legislature by the State Governments and no expenditure can be incurred without specific grant being made for that purpose. This is known as Annual Financial Statement. A general discussion is made in both Houses of Parliament on the Annual Financial Statement. The estimates of expenditure other than that charged, are then placed before the Lok Sabha in the form of Demands for Grants. Ordinarily, a separate

demand is made for each Ministry. All withdrawals of money from the Consolidated Fund is thus made by an Appropriation Act, passed by the Parliament every year. The tax proposals of the Budget are embodied in a separate bill known as Finance Act for the year and then passed.

AUDIT—The Indian Constitution provides that the audit authorities who are independent of the executive, should scrutinise the expenditures of the Central and State Governments and ensure that this is strictly within the limits of their competence. The Constitution also enjoins that an account of the expenditure of each Government should be approved by its Legislature.

UNION AND STATE REVENUES & EXPENDITURE—The main sources of the Central revenues are customs duties, excise duties, corporation and income taxes, estate and succession duty on non-agricultural estate and property and the earnings of the mint. Besides the Railways, Posts & Telegraphs contribute a share to the Central revenue. As much as 85 per cent of total Union Government's revenue is derived from Customs and Union excise duties and Corporation and Income taxes. Other incomes are Railway dividends, Posts and Telegraphs' profits and profits from other commercial undertakings accruing to the Centre. Other sources are surplus profits of the Reserve Bank and the Mints Civil Works (various public works owned and maintained by the Central Government) etc. Other miscellaneous sources also add to the revenue of the Centre.

The main heads of revenue of the States are—(1) Taxes and duties levied by the State Governments; (2) Income from civil departments and civil workers; (3) Earnings from States undertakings; (4) Taxes shared by the Centre; (5) Grants received from the Centre.

Local bodies have the following taxes—

Terminal Taxes, Octroi Taxes, Town Taxes on property, taxes on veterinary and animals, fees for services rendered, licence fees, water and electricity rates, cycle taxes, receipts from cattle pounds, grants from Governments, etc.

The expenditure of the Central Government is divided into Defence, Civil and Capital expenditure. The Defence expenditure is incurred on the army, navy and air force, and non-effective charges, which include pensions, annuities etc. are paid by the Defence Department.

Civil expenditure covers expenditure on civil administration, debt services, refugee rehabilitation, food subsidies, etc. Under Capital expenditure are included the expenditure for the development of industries, railways, posts and telegraphs, aviation, projects etc. The Capital expenditure constitutes a separate capital budget which shows such items as expenditure on the discharge of permanent debts, advances and loans to the States.

TRANSFER OF RESOURCES FROM CENTRE TO STATE—The devolution of resources from the Centre to the States is a salient feature of the system of federal finance in India. Apart from their share of taxes and duties, the State Governments also receive statutory and other grants as well as loans for various development scheme rehabilitation purposes.

NATIONAL DEFENCE FUND—The total amount credited to this Fund which was set up on 27th October, 1962 to receive voluntary contributions for the defence efforts, since its inception up to 31 December, 1983 was Rs. 163.08 crores.

FINANCE COMMISSIONS

Article 280 of the Indian Constitution lays down that the President shall, within two years from the commencement of the Constitution and thereafter, at the

expiration of every fifth year or at such earlier time as the President considers necessary, constitute a Finance Commission. It shall be the duty of the Commission to make recommendations as to (a) the distribution of net proceeds of income-tax between the Union and the State and the allocation of the States' share among the amount to be paid to the States of Assam, Bihar, Orissa and W. Bengal, (b) distribution of other divisible Central taxes like Union excise, (c) in lieu of the assignment of system of the export duty on jute and jute products. (d) principles which should govern the grant-in-aid of the revenues of the States out of the Consolidated Fund of India, (e) the principles which should govern the distribution of the net proceeds of the estate duty in respect of property other than agricultural land. The First Finance Commission was presided over by K.C. Neogi, the Second Finance Commission by K. Santhanam, the Third Finance Commission by A.K. Chanda and the Fourth Finance Commission by Dr. P.V. Rajamannar. The Fifth and Sixth Finance Commissions were headed by Mahavir Tyagi and Brahmananda Reddy, respectively.

FIRST FINANCE COMMISSION — was appointed in November 1951. The following are its recommendations — (1) The percentage of the net proceeds of income tax to be allocated to the States should be raised from 50 to 55p.c. of the divisible pool; (2) Excise duties on tobacco (including cigarettes, cigars etc.), matches and vegetable products are the most suitable for distribution. The Commission recommended that 40 p.c. of the net proceeds of the duty levied on these items should be allocated to the States; (3) The Commission recommended grants-in-aid in the case of jute export duty and that these grants-in-aid should be of fixed sums; (4) Other types of grants-in-aid. The Commission recommended that (a) grant-in-aid are to be given according to the budgetary need of the States; (b) maintenance of the standard of social services is to serve as an important principle in the case of deciding grant-in-aid; (c) certain special burdens of national importance, like consequences of partition would entitle a State to Central grants-in-aid; (d) the Central Government should pay grant-in-aid to less advance States.

SECOND FINANCE COMMISSION — was appointed under Article 280(1) of the Constitution in June 1956 and submitted its report in Sept. 1957. The Commission made recommendations regarding the distribution of divisible Central taxes, the principles which should govern the grant-in-aid from the Centre to the States and the continuance or modification of the terms of agreements entered into by the Central Government and the States. The recommendations of the Commission provided for a devaluation of about Rs. 140 crores per year as against an average sum of Rs. 93 crores received by the States under the Finance Commission's recommendations.

THIRD FINANCE COMMISSION — was set up on December 2, 1960; it submitted its report on December 14, 1961. The State's share of taxes, duties and central grants based on its recommendations have been carried out. It includes estate duty, grants in lieu of tax on Railway passenger fares, income-tax, Union excise duties on 35 scheduled articles, additional excise duties in replacement of sales tax on 6 articles and grants-in-aid under substantive portion of Articles 275(1). The Government accepted all the recommendations of the Commission except one.

FOURTH FINANCE COMMISSION — was set up on May 5, 1954. The report, of the Commission was placed on the table of the Lok Sabha on September 10, 1965.

The Fourth Finance Commission not only raised the States share of income-tax from 66.2/3% to 75% but also raised the annual grant-in-aid to States from nearly Rs. 64 crores to Rs. 140 crores. The Commission's recommendation,

accepted by the Government on the basis of existing level of taxation would involve an additional transfer of Rs. 780 crores to the States during the Fourth Plan period. While the States share of the divisible pool of income-tax had been raised from 66.2/3% to 75% the share of each State would continue to be determined on the basis of 80% on population and 20% on collection. The Government also accepted the Commission's recommendation that the State should share 20% of the yield from excise duty on all-commodities instead of only 35 commodities as at that time. The Government accepted the Majority recommendation that the excess over the guaranteed amount of Rs. 32.54 crores should be distributed among States on the basis of sales tax revenue realised in each state to the total sales tax collection in all States taken together.

The Commission also recommended a total grant-in-aid of Rs. 121.89 crores to 10 States as against the then grants-in-aid at Rs. 63.75 crores to 12 States. They were : Andhra Rs. 7.22 crores; Assam Rs. 16.52 crores; Jammu and Kashmir Rs. 6.57 crores; Kerala Rs. 20.82 crores; Madhya Pradesh Rs. 2.70 crores; Tamil Nadu Rs. 6.84 crores; Karnataka Rs. 18.24 crores; Nagaland Rs. 7.07 crores; Orissa Rs. 29.18 crores; Rajasthan Rs. 6.73 crores.

FIFTH FINANCE COMMISSION—The constitution of the Fifth Finance Commission with effect from 15th March, 1968 with Mahavir Tyagi as Chairman was notified on 29th February 1968.

The interim report of the Commission was placed on the table of the Lok Sabha on 15th November, 1968.

One of the important recommendations made by the Finance Commission related to the problem of unauthorised overdrafts of certain States with the Reserve Bank of India and the procedure to be observed to avoid such overdrafts.

Of the 17 States, it had been found, that six or seven States had been having persistent unauthorised overdraft. As ranked by the per capita income of their inhabitants, such States were not those in the lowest ranks. The Commission had added : 'Some of the less prosperous States did not get into unauthorised overdraft while some relatively better States had done so.'

According to the Commission, apart from the contravention of the Constitution the occurrence of overdraft and their practically automatic clearance by the Centre through adhoc loans have grave effects on the national economy. It had also expressed the fear that if allowed to continue, the practice might become infections. Regarding the States which were having unauthorised overdrafts the Commission felt that they faced two problems—temporary difficulties because of the uneven flow of receipts or expenditure and chronic imbalance between their resources and functions.

The Commission had urged the States to balance their budgets and manage their affairs within the resources available to them, instead of using the ways and means advances to finance general budgetary needs. It had also requested the Reserve Bank to make periodical review of the limits of ways and means advances and urged the Central Government to consider more frequent releases of the States' share of income-tax during the last two quarters.

Suggesting the procedure to deal with overdrafts, the Commission felt that where an unauthorised overdraft took place, the Reserve Bank should issue a notice to the State Government and inform the Union Government. It should be the duty of State Government to make immediate steps to clear the overdraft within the notice period, failing which the Reserve Bank must proceed to stop payments. It had urged the Union Government to help State Governments to clear the overdrafts by offering suggestion and active co-operation.

In extreme cases where a State Government persist in incurring an unauthorized overdraft, the Commission had suggested that the Centre would have to decide whether the crisis resulting from stoppage of payments of the State's cheques should be allowed to develop or it would be expedient to forestall it by invoking its constitutional powers.

Commenting on the recommendation regarding overdrafts the Government had stated that they raised 'several important issues' and had promised to examine them after the immediate action required on the Commission's report was taken.

SIXTH FINANCE COMMISSION — The appointment of the Sixth Finance Commission under the Chairmanship of Brahmananda Reddy was announced on 28th June, 1972. The Commission's report was submitted to the President on 28th October, 1973 and was placed on the table of both Houses of Parliament on 18th December, 1973. The Commission recommended debt relief to the States, by extending repayment periods. The Commission has not recommended any write off the State's debts to the Centre. The Commission had broadly maintained the existing distribution formula for income tax and excise, though it regard to the latter a slightly larger percentage has been provided for backward areas. On relief for natural calamities, the Commission has suggested some check on the States resources to the Centre for relief assistance by providing or development of drought-prone areas in the Plan itself.

The Government has accepted the recommendation of the Sixth Finance Commission on devolution of tax receipts, debt relief grants-in-aid to the State covering the five year period from April 1, 1974 to March 31, 1979.

On the basis of the Commission's recommendations there will be a transfer of Rs.9,608.85 crores to the States during the five years period. Grants totalling Rs.2,509.61 crores will be made to 14 States to cover the estimated non-plan deficit in the five years even after allowing for devolution of taxes. The tax devolution to the States during the Fifth Plan period will amount to Rs.7,099 crores.

Debt relief for period, totalling Rs.1,969.62 crores, varies between Rs.5.84 crores for Nagaland to a maximum of Rs.258.14 crores for Rajasthan.

While the commission has suggested that the allocation of the net proceeds of income-tax to the States should be raised from the existing 75% to 80% it has not suggested any change in the existing principles of distribution of estate duty and grant in lieu of the repealed tax on railway passenger fares. Nor has it recommended any change in the States' share of excise duties though it has suggested sharing the auxiliary duties of excise introduced from the current year.

Expressing itself against the setting up of a national fund of financing relief expenditure the commission has made alternative suggestions for financing relief expenditure to the States affected by natural calamities.

On tax devolution, the Commission has raised the share of States on the net proceeds of taxes by 5%. But the shares of each State continues to be determined on the basis of 90% of population and 10% on assessment.

The estimated relief in repayment of loans to the Centre, would be Rs.258.14 crores for Rajasthan, Rs.191.20 crores for Andhra, Rs.162.49 crores for Assam, Rs.157.32 crores for Orissa, Rs.150.77 crores for U.P., Rs.153.12 crores for West Bengal, Rs.133.43 crores for Jammu and Kashmir, Rs.133.35 crores for Bihar, Rs.127.04 crores for Karnataka and Rs.109.77 crores for Kerala.

The relief for other States are as follows : Gujarat Rs.36.25 crores, Haryana Rs.33.14 crores, Himachal Pradesh Rs.34.47 crores, Madhya Pradesh Rs.87.16 crores, Maharashtra Rs.66.58 crores, Manipur Rs.15.23 crores, Meghalaya Rs.7.64 crores, Nagaland Rs.5.84 crores, Punjab Rs.15.18 crores, Tamil Nadu Rs.87.05 crores and Tripura Rs.14.35 crores.

The Commission has recommended the following amounts as grant-in-aid under Article 275 (1) of the Constitution to various States totalling Rs.2,509.61 crores for the five year period (the amounts vary from year to year).

Andhra Pradesh Rs.205.93 crores, Assam Rs.254.53 crores, Bihar Rs.106.28 crores, Himachal Pradesh Rs.160.96 crores, Jammu and Kashmir Rs.173.49 crores, Kerala Rs.208.03 crores, Manipur Rs.114.53 crores, Meghalaya Rs.67 crores, Nagaland Rs.128.84 crores, Orissa Rs.304.73 crores, Rajasthan Rs.230.53 crores, Tripura Rs.112.50 crores, U.P. Rs.198.83 crores and West Bengal Rs.234.86 crores.

Under the Commission's recommendation relating to sharing of taxes of duties 80% of the net proceeds of taxes on income, except the portion (1.79%) representing the proceeds, attributable to Union Territories, would be assigned to the States. At present the States' share was 75%.

As the commission has not suggested any change in regard to sharing basic Union excise duties the States' share would continue to be 20% of the total net proceeds as at present.

Backwardness as measured by the relative per capita income (25%) and population (75%) are the two criteria adopted by the commission or determining the share of each State in the divisible pool. The weightage given on backwardness by the last commission was 20%.

The commission assessed the revenue receipts and non-plan revenue expenditure of the different states for the five year period 1974-75 to 1978-79, including the requirements for revision of emoluments up-gradation of standards of administration and has estimated the total non-plan revenue gap of 18 States of Rs.7.745 crores without devolution of taxes.

The States of Haryana, Maharashtra and Punjab are in the assessment of the commission, expected to have non-Plan revenue surpluses amounting to Rs.312 crores even without any tax devolution.

Under the commission's recommendation the entire net proceeds of additional excise duties other than those attributable to Union Territories, accrue to the States. As for the distribution of these proceeds among the States at present certain sums are guaranteed to each State and the proceeds over the above the total guaranteed amount are also distributed to the States on the basis of population and sales tax collection.

The Sixth Finance Commission has however, felt that there was no need to set apart guaranteed amounts to the States and the entire net proceeds after deducting the portion attributable to the Union Territories be distributed among the States on the basis of population. State product at State current prices and production of the commodities subject to additional excise duties in the ratio of 7 : 20 : 10.

In regard to grant on account of wealth tax on agricultural property the commission's recommendation is that the amount be distributed among the States in proportion to the value of agricultural property located in each State and brought to assessment in the year.

SEVENTH FINANCE COMMISSION — had been constituted by a presidential order in June 1977 under the Chairmanship of J.M. Shelat. The Commission submitted its report to the President on 28 October, 1978. The recommendations of the Commissions cover a period of five years beginning from 1st April, 1979.

The Seventh Finance Commission has doubled the States' share of the net proceeds of union excise duty from the existing 20% and has increased their share of net proceeds of taxes on income from 80% to 85%.

It has revised the system of grants-in-aid under Article 175(1) of the Constitution to benefit the States substantially. Through this and other recommendations, the Commission has used the fiscal transfer scheme in such a manner that the less affluent States are left with surplus on revenue account which could be used for development.

The total transfers to all the States as shares of taxes and grants are estimated at Rs.20,843 crores in the next five years. They involve 55% of the total divisible tax receipts of the Centre and 26% of the total revenue receipts of the Central Government.

The Commission has recommended debt relief of Rs.2,156 crores during the next five year period in the light of its assessment of the non-plan capital gap being Rs.3,512 crores. The Government has accepted the debt relief scheme but not the Commission's recommendation to convert the small-savings loans to the States into 'loans in perpetuity'.

However, in order not to disturb the order of the debt relief recommended by the Commission for 1979-84, the State Governments will not be required to make any repayment during that period on account of such loans as may be outstanding at the end of 1978-79.

In order to upgrade the standards in non-development sectors and services in States which are backward in general administration, the Commission has recommended that States with deficits in non-plan revenue account without devolution Central taxes and duties should get separate grants-in-aid totalling Rs.437 crores.

These would go towards meeting expenditure on revenue and capital accounts on judicial administration ; revenue, district and tribal administration ; police administration ; jail administration and stamps; registration and Treasury administrative Central Ministries.

For the distribution of the net proceeds of additional excise duties retained the formula of 90% on the basis of the population on each State (1971 census) and the remaining 10% on the basis of contribution, measured by the annual average of net assessment in each State.

For the distribution of the net proceeds of excise duty in respect on sugar,

textiles and tobacco, the Commission has determined the shares attributable to Union Territories and each State on the following basis: in the case of sugar, average despatches to the Union Territories and each State during the three years ending 1976-77, and in the case of textiles and tobacco, population according to the 1971 Census and average per capita State domestic product.

For the distribution of the net proceeds of estate duty in respect of property other than agricultural land, the Commission had recommended that it should be in proportion to the gross value of all property located in each State and brought into assessment in the relevant year. The portion attributable to Union Territories also being determined in the same manner, taking all the Union Territories together as one unit for the purpose.

For the distribution of the grant to the States in lieu of tax under the repealed Railway Passenger Fares Tax Act, the Commission has determined the percentage share of each State on the basis of the non-suburban passenger earnings of the Railways of the State-wise route kilometre as at present.

The Commission has recommended that the grant to each State on account of wealth tax on agricultural property should be an amount equivalent to the net collection in that State in each year.

For Sikkim, the Commission has recommended devolution of the additional excise duties, in lieu of sales-tax levied on sugar and tobacco only as the State is currently levying a sales-tax on textiles. However, for textiles also the Commission has recommended the appropriate percentage share of Sikkim in case that State withdraws sales tax on textiles.

For the devolution of income-tax and basic excise duties, the Commission has recommended alternative percentages shares for the States, including Sikkim, so that as and when these taxes become leviable in Sikkim, the relevant percentage recommended by the Commission could be adopted.

In re-assessing the State Governments forecasts of receipts and expenditure in the five years 1979-84, the Commission has adopted the following approach.

(1) After assessing the revenue receipts of States for 1979-84 with 1978-79 figures as the base, the Commission made an adjustment so that on the one hand, a State which has not fulfilled the additional resource mobilization target under the Plan set it for 1978-79 is not benefited and that, on the other a State which has exceeded the target is not penalized.

(2) It has been generally assumed by the Commission that the State Government would by the end of 1983-84, be able to avoid losses in their department commercial undertakings. For minor irrigation schemes the Commission has assumed that the level of losses in 1979-80 would be progressively reduced to one-half by 1983-84. In the case of multipurpose major and medium irrigation schemes, a positive return by way of interest at 1% on total capital invested by the end of 1983-84 has been assumed by the Commission.

On investments of the State in the power sector as at the end on 1978-79, the Commission has adopted the normative return of 6% inclusive of States' electricity duty and the Central excise duty payable on own generation by the Electricity Boards or departmental undertakings. For other undertakings, of the

State Governments, like road transport undertakings, etc., the Commission has generally assumed similar normative returns.

(3) In assessing the requirements of the State towards emoluments of government employees, teachers and employees of local bodies the Commission worked out the all-State average of emoluments in respect of certain selected common categories of employees and adjusted it upward in such a manner that the differential between such adjusted average and the Central Government level is the same on January 1, 1977 as it was on Jan. 1, 1972. This adjusted average has been used as a norm for determining the additional requirements of State Governments.

In addition, the Commission has basic provision to cover the cost corresponding to the two instalments of dearness allowance which the Central Government sanctioned for its employees, after January 1, 1977.

A sum of Rs. 23,062 crores will be transferred to the States and Union Territories in the next five years beginning April 1, 1979 as their share of Central taxes, grants-in-aid, debt relief etc., as per the report of the Seventh Finance Commission.

This will be about Rs. 10,000 crores more than the sum transferred to the States and Union Territories in the five year period ending March next year.

The Centre has also accepted the Commission's recommendation that the net proceeds of the revenue from the recently introduced duty on electricity generation should be given back to the States in which they are realised.

In the Commission's assessment, five States—Gujarat, Haryana, Karnataka, Maharashtra and Punjab—are expected to have a surplus on non-plan revenue account during 1979-80 even without any tax devolution from the Centre.

But taking into account devolution, all but eight States, are expected to have surplus on non-plan revenue account totalling Rs. 13,582 crores.

The eight States which will have deficit in the non-plan revenue account are Himachal Pradesh, Jammu and Kashmir, Manipur, Meghalaya, Orissa, Sikkim and Tripura.

To cover the non-plan revenue gap of these eight States the Commission has recommended—and the Government has accepted payment of grant-in-aid totalling Rs. 1,173 crores during 1979-84.

A broad break-up of the total transfer is as follows: debt relief Rs. 2,155 crores, share of income-tax Rs. 4,791 crores, basic excise duty Rs. 11,347 crores, additional excise duty Rs. 1,867 crores, excise on power Rs. 1,145 crores, grants under Article 275 of the Constitution Rs. 1,173 crores (general) and Rs. 436 crores (for upgradation of administration like judiciary, police, jail etc.)

In assessing the needs of States to pay for their employees, teachers and employees of local bodies, the Commission has worked out the all-States average of emoluments in respect of certain selected common categories of employees. It has adjusted it upward in such a manner that the differential between the adjusted average and the Central Government level is the same as on January 1, 1977.

The Commission has assumed that the State Governments would be able to avoid losses in their department undertakings by 1983-84. Losses on minor irrigation are expected to be half the 1979-80 level.

In the case of multi-purpose, major and medium irrigation schemes, a positive return by way of interest at one per cent on total capital invested has been assumed by the Commission. A return of six per cent has been assumed on investment in the power sector, road transport undertakings, etc.

The approach of the Commission has been to ensure that the fiscal transfers leave as many of less affluent States as possible with surpluses on revenue account which could be purposefully utilised towards fresh development.

The Commission states that the revenue equalisation principle we have adopted is a recognition of the fact that States which are less favourably placed in regard to their resources potential should be specially helped in order to place them in a position where they can also take steps more readily or the betterment of people living in those States.

On resource mobilisation by States, the Commission says the tax revenues of the States have remained at 31 to 33 per cent of the tax revenues of the Centre and the States put together, except in 1972-73. "This indicates that in the matter of additional resource mobilisation, the States as a whole have not lagged behind the Central Government and the performance of the States has been on the whole creditable."

On the basis for the net proceeds of additional excise duty on sugar, textiles, and tobacco, the Commissions' recommendations is; in the case of sugar, average despatches to the Union Territories and each State during the three years ending 1976-77; in the case of textiles and tobacco, population according to the 1971 census and the average per capita State domestic product. The different basis for textiles and tobacco is because the Commission has not been able to find a similar method as in the case of sugar of estimating consumption in each State.

The Commission has recommended that distribution of the net proceeds of estate duty on property other than agricultural land, should be in proportion to the gross value of all property located in each States and brought into assessment in the relevant year. The portion attributable to Union Territories should also be determined in the same manner, taking all the Union Territories together as one unit for this purpose.

The grant in lieu of tax under the repealed Railway Passenger Fares Tax Act, will be given on the basis of the non-suburban passenger earnings with reference to the originating station in each State, instead of route kilometres as at present.

COMBINED BUDGETARY POSITION OF THE CENTRAL AND STATE GOVERNMENT— The combined budgetary deficit of the Centre and 25 States was Rs. 8,125 crores in 1988-89.

The combined aggregate receipts of the Centre and 25 States was Rs. 1,14,960 crores in 1988-89.

The combined aggregate disbursements of the centre and 25 States was Rs. 1,23,085 crores in 1988-89.

The Reserve Bank Credit to Central Government and State Governments increased to Rs. 6,402 crores in 1987-88.

Combined Receipts and Disbursements of Central and State Governments

146

(Rs. crores)

HINDUSTAN YEAR-BOOK

Items	1986-87 (Accounts)		1987-88 (Revised Estimates)		1988-89 (Budget Estimates)*	
	Amount		Amount	Per cent variation over the previous year	Amount	Per cent variation over the previous year
	2	3	4	5	6	
I Total Disbursements	101602	112336	+10.6	123085	+9.6	
Of which :						
1. Developmental (a+b+c+)	64441	70374	+9.2	74161	+5.4	
(a) Revenue	38639	45397	+17.5	47706	+5.1	
(b) Capital	13625	12747	-6.5	13745	+7.8	
(c) Loans	12177	12231	+0.4	12710	+3.9	
2. Non-Developmental (a+b+c)	33682	39689	+17.8	46969	+18.3	
(a) Revenue	31596	35830	+13.4	42146	+17.6	
(b) Capital	1592	3423	+115.0	4278	+25.0	
(c) Loans	494	436	-11.7	545	+25.0	
II. Total Receipts (A+B)	92453	104670	+13.2	114960	+9.8	
A. Revenue Receipts	62902	71548	+13.7	79710	+11.4	
Of which :						
i) Tax Receipts (a+b+c)	49378	56762	+15.0	64177	+13.1	
(a) Taxes on Commodities and Services	40941	47274	+15.5	53404	+13.0	
(b) Taxes on Income and property	7873	8850	+12.4	10071	+13.8	
(c) Taxes of Union Territories (without Legislature)	564	638	+13.1	702	+10.0	
ii) Non-Tax Receipts	13524	14786	+9.3	15533	+5.1	

PUBLIC FINANCE

B. Capital Receipts	29551	33122	+12.1	35250	+6.4
Of which :					
(i) Market Borrowings (Gross)	7876	9558	+21.4	9471	-0.9
(ii) Market Borrowings (Net)	6570	8440	+28.5	8701	+3.1
(iii) Small Savings (Net)	3276	4200	+28.2	4600	+9.5
(iv) State Provident Funds (Net)	1571	2155	+37.2	1784	-17.2
III Overall Surplus (+) or Deficit (—) (II—I)	-9149	-7666			-8125
Financing of Surplus (+) or Deficit (—)					
(i) Increase (+) or Decrease (—) in cash balances of Centre and States	-125	-1972			-630
(ii) Increase (—) or Decrease (+) in Treasury Bills of Centre	-8862	-5425			-7484
(iii) Withdrawals from (—) additions to (+) Cash Balance Investment Accounts of State (Net)	-272	-233			-9
(iv) Increase (—) or Decrease (+) in Ways and Means Advances and Overdrafts from the RBI to States (Net)	+110	-36			-2

+ Including effects of budget proposals and excluding pose-budget tax concession.

Note Data relate to 25 States. Figures for Jammu and Kashmir and Nagaland for 1986-87 relate to Revised Estimates.

COMBINED RECEIPTS AND DISBURSEMENTS OF CENTRAL AND STATE GOVERNMENTS

(Rs. crores)

Year	Revenue Account			Capital Account			Aggre- gate Receipts	Aggre- gate Disburse- ments	Surplus (+) or Deficit (-)	Aggre- gate Receipts	Aggre- gate Disburse- ments	Overall Surplus (+) or Deficit (-)	Gross Domestic Product at current market prices
	Receipts	Tax Revenue	Expen- diture	Surplus (+) or Deficit (-)	Receipts (a)	Disbur- sements							
1	2	3	4	5	6	7	8	9	10	11	12		
1970-71	5,810	4,735 (11.8)	5,666	+144	2,611	3,181	-570	8,421 (20.9)	8,847 (22.0)	-426	40,263		
1975-76	14,344	11,155 (15.0)	12,486	+1,858	5,277	7,426	-2,149	19,621 (26.4)	19,912 (26.8)	-291	74,344		
1980-81	25,591	19,793 (14.6)	24,882(d)	+709	10,095(c)	14,278(c)	-4,183	35,686 (26.3)	39,160 (28.8)	-3,474	1,35,812		
1982-83	34,752	27,175 (15.3)	35,119	-367	14,829	16,938	-2,109	49,581 (27.9)	52,057 (29.3)	-2,476	1,77,588		
1983-84	39,099	31,236 (16.1)	41,286	-2,187	18,922	18,703	+219	58,021 (28.0)	59,989 (28.9)	-1,968	2,07,272		
1984-85	45,296	35,808 (15.6)	49,716	-4,420	21,175	21,938	-763	66,471 (29.0)	71,654 (31.2)	-5,183	2,29,542		
1985-86	54,097	42,991 (16.4)	59,005	-4,908	27,124	25,465	+1,659	81,221 (31.0)	84,470 (32.3)	-3,249	2,61,733		
1986-87	62,902	49,378 (16.9)	70,658	-7,756	29,551	30,944	-1,393	92,453 (31.6)	1,01,602 (34.7)	-9,149	2,92,787(b)		
1987-88 (Revised Estimates)	71,548	56,762 (17.3)	81,669	-10,121	33,122	30,667	+2,455	1,04,670 (31.9)	1,12,336 (34.2)	-7,666	3,28,241(e)		
1988-89 (Budget Estimates)*	79,710	64,177	90,375	-10,665	35,250	32,710	+2,540	1,14,960	1,23,085	-8,125			

- Note : 1. Data do not cover Union Territories with legislatures. Data for 1985-86, 1986-87 and 1987-88 relate to 23 State Budgets excluding Arunachal Pradesh and Goa and data for 1988-89 relate to 25 State Budget. Figures for Nagaland and Jammu and Kashmir for years 1984-85, 1985-86 and 1986-87 (Accounts) relate to revised estimates.
2. Due to changes in accounting classification of budget heads the figures from 1975-76 to 1984-85 are not strictly comparable with those for 1970-71 and the figures from 1985-86 onwards are not strictly comparable with those for earlier years.
3. Figures for receipts and expenditure in this Statement are based on the budget documents of Central and State Governments as adjusted for centre's grants and loans to States and for the States' interest payments and loan repayments to the Centre on the basis of data available in Central budget, so as to avoid double counting. Thus, (i) Revenue receipts of the States and Revenue expenditure of the Centre are adjusted for grants from the Centre to the States; (ii) Revenue expenditure of the States and Revenue receipts of the Centre are net of interest payments to the Centre by the States; (iii) Capital receipts of the States and Capital disbursements of the Centre are adjusted for loans from the Centre to the States and (iv) Capital disbursements of the States and Capital receipts of the Centres are net of repayments of loans by the States to the Centre.
4. Capital receipts of the States are also adjusted for net receipts/repayments of ways and means advances and overdrafts from/to the Reserve Bank of India. The data given in the State budget have been used.
5. Figures in brackets are percentages to Gross Domestic Product at current market prices.
- (a) Exclude Treasury Bill Receipts (net).
 - (b) Quick estimates.
 - (c) Includes contra-entries relating to national receipt/expenditure of Rs. 588 crores on account of subscriptions payable to International Monetary Fund in the form of securities and Special Drawing Rights.
 - (d) Excludes accounting adjustments relating to the write-off of Rs. 938 crores of loans advanced to the State Governments prior to 1979-80. These loans were written-off by way of debt relief in pursuance of the recommendations of the Seventh Finance Commission.
 - (e) R.B.I. tentative estimates.
- * Include effects of budget proposals and exclude Post-budget tax concessions.

BUDGETARY POSITION OF THE GOVERNMENT OF INDIA

Items	(Rs. crores)								
	1970-71 (Accounts)	1975-76 (Accounts)	1980-81 (Accounts)	1983-84 (Accounts)	1984-85 (Accounts)	1985-86 (Accounts)	1986-87 (Accounts)	1987-88 (Revised Estimates)	1988-89 (Budget Estimates)(a)
	1	2	3	4	5	6	7	8	9
I Revenue Account									
A. Revenue	3,342	8,075	12,829	20,493	24,384	29,207	34,768	40,208	44,994 (44,358)
B. Expenditure	3,179	7,188	14,544(e)	22,890	27,881	34,772	42,544	48,705	54,836
C. Surplus(+) or Deficit(-)	+163	+887	-1,715	-2,397	-3,497	-5,565	-7,776	-8,497	-9,842 (-10,478)
II. Capital Account									
A. Receipts(b)	2,046	4,149	8,771(e)(f)	15,861	17,768	16,763	18,529	21,959	23,278
B. Disbursements	2,494	5,402	9,633(f)	14,881(g)	18,016	16,135(h)	19,014	19,542	20,920
C. Surplus(+) or Deficit(-)	-448	+1,253	-862	+980(g)	-248	+628(h)	-485	+2,417	+2,358
III. Overall Surplus (+) or Deficit(-) (IC+IIC)	-285	-366	-2,577	-1,417(g)	-3,745	-4,937(h)	-8,261	-6,080	-7,484 (-8,120)
Financing of Surplus (+) or Deficit(-)									
A. Increase (-) or Decrease (+) in Treasury Bills (c)	-359	-846	-2,755	+1,675(i)	-3,696	+6,562(i)	-8,862	-5,425	-7,484
B. Decrease (-) or Increase (+) in Cash Balances	+74	+480	+177	-3,492	-49	-3	+601	-655	-
(i) Opening Balance	+156	+317	+560	+4,028	+537	+488	+106	+707	+51
(ii) Closing Balance	+230	+797	+737(d)	+536	+488	+485	+707	+52	+51

Note : (a)

Including effects of budget proposals as also Rs. 49 crores collection from the revision of the postal rates. Post-budget tax concessions are not adjusted. Figures in brackets excludes the effects of budget proposals. (b) Excluding Treasury Bills receipts and conversion of ad-hoc Treasury Bills of Rs. 75 crores in 1970-71. Rs. 100 crores each in 1975-76 and 1980-81 into dated securities. (c) Mostly sold to the Reserve Bank of India. (d) Provisional. (e) Includes accounting adjustments relating to the write-off of Rs. 938.3 crores of loans advanced to State Governments prior to 1979-80 in pursuance of the recommendation of the Seventh Finance Commission. (f) Includes notional expenditure/receipts of Rs. 588.2 crores on account of subscriptions payable to International Monetary Fund in the form of securities and Special Drawing Rights. (g) Excludes Rs. 400 crores of loans to State Governments to clear their overdrafts as on March 31, 1983. (h) Excludes Rs. 1,628 crores of medium-term loans to State Governments to clear their overdrafts. (i) Total of financing items will not add up to overall deficit, vide foot notes (g) and (h) in respect of the year 1983-84 and 1985-86, respectively. See 'Notes on the Statements'.

Overall Budgetary Position of State Governments

(Rupees crores)

Item	1986-87@ (Accounts)	1987-88 (Budget Estimates)	Percentage variation over the pre- vious year (Col. 2 over Col. 1)	1987-88 (Revised Estimates)	Percentage variation over the pre- vious year (Col. 4 over Col. 1)	1988-89 (Budget Estimates)	Percentage variation over the pre- vious year (Col. 6 over Col. 4)
	1	2	3	4	5	6	7
I. Aggregate Receipts (A+B)	51160.9	56601.6 (55485.0)	+10.6 (+8.5)	58372.7	+14.1	63778.4 (63358.8)	+9.3 (+8.5)
A. Revenue Receipts (1+2)	37917.4	42941.3 (41824.7)	+13.2 (+10.3)	43266.7	+14.1	47747.8 (47328.2)	+10.4 (+9.4)
1. Tax Receipts (a+b)	24965.5	28838.5+5 (27816.4)	+15.5 (+11.4)	28315.6	+13.4	31914.0 (31559.0)	+112.7 (+11.5)
(a) States' Taxes	16687.4	19591.7 (18760.3)	+17.4 (+12.4)	18946.3	+13.5	21527.3 (21198.7)	+13.6 (+11.9)
(b) Share in Central Taxes	8278.1	9246.8 (9056.1)	+11.7 (+9.4)	9369.3	+13.2	10386.7 (10360.3)	+10.9 (+10.6)
2. Non- Tax Receipts (c+d)	12951.9	14102.8 (14008.3)	+8.9 (+8.2)	14951.1	+15.4	15833.8 (15769.2)	+5.9 (+5.5)
(c) Grants from the Centre	6818.7	7517.7	+10.3	8326.6	+22.1	8463.9	+1.7
(d) Other Non-tax Receipts	6133.2	6585.1 (6490.6)	+7.4 (+5.8)	6627.5	+8.1	7369.9 (7305.3)	11.2 (+10.2)
B. Capital Receipts (1+2)	13243.5	13660.3 5295.5	+3.1 -4.3	15106.0 6144.5	+14.1 +11.0	16030.6 6511.6	+6.1 +6.0
1. States' Capital Receipts (a) Market Borrowings	5533.7						

Of which:

(a) Market Borrowings (Gross)	1298.6	1615.7	-24.4	1727.9	+33.1	1985.3	14.9
(b) Recovery of loans and Advances	973.0	886.3	+8.9	1077.4	+10.7	1127.6	+4.7
2. Loans from the Centre	7709.8	8364.8	+8.5	8961.5	-16.2	9519.0	6.2

II. Aggregate Disbursements⁺

(A to E)	52055.6	56993.3	+9.5	59939.0	+15.1	64620.0	+7.8
A. Developmental Expenditure							
+(1 + 2)	36266.1	39164.6	+8.0	42361.0	+16.8	43552.3	+2.8
1. Social Service	16521.2	17866.9	+8.1	19552.5	+18.3	20098.7	+2.8
of which:							
Expenditure on natural calamities	646.1	300.6	-53.5	858.4	+32.9	236.5	-72.4
2. Economic Services	19744.9	21297.7	+7.9	22808.5	+15.5	23453.6	+2.8
B. Non-Developmental Expenditure ⁺	11526.9	14074.1	+22.1	13654.3	+18.5	16814.7	+23.1
C. Repayment of Loans to the Centre	3032.5	2954.4	-2.6	3156.7	+4.1	3343.8	+5.9
D. Discharge of Inte. Debt	353.5	405.7	+14.8	400.9	+13.4	415.2	+3.6
of which:							
Market Loans	265.9	293.3	+10.3	295.3	+11.1	292.7	-0.9
E. Others*	876.6	394.5	-55.0	366.1	-58.2	494.0	+34.9

III. Overall Surplus / Deficit (A to E)

-894.7	-391.7	-1566.3	-841.6
	(-1508.3)		(-1,261.2)

* Comprise compensation and assignments to local bodies and remittances (net).

@ Figures for Jammu and Kashmir and Nagaland relate to revised estimates.

+ Comprise expenditure on revenue and capital accounts and loans and advances extended by States.

Note : 1. Budget estimates for 1988-89 include the estimated net yield of Rs.393.2 crores from additional resources mobilisation measures proposed by the state and the States' share of Rs. 26.4 crores in the Centre's additional taxation proposed in the Central Budget for 1988-89.

2. Budget estimates for 1987-88 include the estimated net yield of Rs.925.9 crores from additional resource mobilisation measures introduced through the State Budget and the States' share of Rs.190.7 crores in the Centre's additional taxation announced in the Central Budget for 1987-88.

4. Data relates to 24 States excluding Tripura.

CONSOLIDATED BUDGETARY POSITION OF STATES

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	(Rs. crores)				
	1	2	3	4	5
		1986-87 (Accounts) +	1987-88 (Budget Estimates)	1987-88 (Revised Estimates)	1988-89 (Budget Estimates)
I. Revenue Account					
A. Revenue		37917.4	42941.3 (41824.7)	43266.7	47747.8 (47328.2)
B. Expenditure		37940.3	41970.1	44902.9	48808.1
C. Surplus (+) or Deficit (-)		-22.9	+971.2 (-145.4)	-1636.2	-1060.3 (-1479.9)
II. Capital Account*					
A. Receipts		13243.5	13660.3	15106.0	16030.6
B. Disbursements@		14115.3	15023.2	15036.1	15811.9
C. Surplus (+) or Deficit (-)		-871.8	-1362.9	+69.9	+218.7
III. Aggregate Receipts (IA + IIA)		51160.9	56601.6 (55485.0)	58372.7	63778.4 (63358.8)
IV. Aggregate Disbursements (IB + IIB)		52055.6	56993.3	59939.0	64620.0
V. Overall Surplus (+) or Deficit (-) (IC+IIC or III-IV)		-894.7	-391.7 (-1508.3)	1566.3	(-841.6) (-1261.2)
Financing of Surplus (+) or Deficit (-):					
A. Increase (+) or Decrease (-) in Cash Balances		-731.3	-378.7 (-1495.3)	-1300.6	-855.7 (-1275.3)
B. Additions to (+) or Withdrawals from (-) Cash Balance Investment Account (net)		-273.4	-15.0	-229.8	+15.8

C. Repayment of (+) or Increase in (-) Ways and Means Advances and Overdrafts from the Reserve Bank of India (net)	+110.0	+2.0	-35.9	-1.7
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Note:

1. Figure in brackets under the year 1987-88 (Budget Estimates) and 1988-89 (Budget Estimates) are at 1986-87 and 1987-88 rates of taxation, respectively.
2. Figures outside brackets under the year 1987-88 (Budget Estimates) include the estimated net yield of Rs. 925.9 crores from additional resources mobilisation measures introduced through the State Budgets and the States' share of Rs. 190.7 crores in the Centre's additional taxation proposed in the Central Budget for 1987-88.
3. Figures outside brackets under the year 1988-89 (Budget Estimates) include the estimated net yield of Rs. 393.2 crores from additional resource mobilisation measures proposed by the States and the States' share of Rs. 26.4 crores in the Centre's additional taxation proposed in the Central Budget for 1988-89.
4. Data relate to 24 States out of 25 States i.e. excluding Tripura.
- * Excluding (i) Ways and Means Advances and Overdrafts from Reserve Bank of India and (ii) purchases/sales of securities from cash balance investment account.
- @ Include remittances (net).
- † Figures for Jammu and Kashmir and Nagaland relate to revised estimates.

CAPITAL BUDGET OF STATES

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HINUSTHAN YEAR BOOK

(Rs. crores)				
Items	1986-87 (Accounts)§§	1987-88 (Budget Estimates)	1987-88 (Revised Estimates)	1988-89 (Budget Estimate)
1	2	3	4	5
A. Total Receipts (1 to 11)	13243.5	13660.3	15106.0	16030.6
1. Internal Debt*	1314.8	2090.9	1937.0	2496.6
Of which :				
Market Loans (Gross)	1298.6	1615.8	1727.9	1985.3
2. Loans from the Centre	7709.8	8364.8	8961.4	9519.0
3. Recovery of Loans and Advances	973.0	886.3	1077.4	1127.6
4. Small Savings, Provident Funds, etc. (net)	1020.0	1219.8	1808.7	1371.2
5. Inter-State Settlement (net)	2.0	-0.7	-0.9	-1.3
6. Contingency Fund (net)	161.5	9.4	-8.5	32.6
7. Reserve Funds (net)	421.4	580.5	498.9	721.0
8. Deposits and Advances (net)	1342.2	477.4	541.9	572.3
9. Suspense and Miscellaneous (net)§	670.0	32.2	191.0	201.6
10. Appropriation to Contingency Fund (net)	-380.0	-0.3	+99.1	-10.0
11. Others	8.8	-	-	-
Total Disbursements (1 to 5)	14115.3	15023.2	15036.1	15811.9
1. Total Capital Outlay (i + ii)	6151.8	7330.7	6806.2	7379.8
(i) Developmental Outlay (a+b)	5923.7	7083.3	6559.7	7123.1
(a) Social Services	950.7	1106.9	1157.2	1127.9
(b) Economic Services	4973.0	5976.4	5402.5	5995.2
(ii) Non-Developmental Outlay @	228.1	247.4	246.5	256.7

PUBLIC FINANCE

2. Discharge of Internal Debt @ Of which:	353.5	405.7	401.0	415.2
Market Loans				
3. Repayment of Loans to the Centre	265.9	293.3	295.3	292.6
4. Loans and Advances by State Governments (i + ii)	3032.5	2954.5	3156.7	3343.8
(i) Developmental Purposes (a+b)	4122.2	4358.0	4745.2	4700.4
(a) Social Services	3886.1	4088.8	4491.4	4427.1
(b) Economic Services	566.8	664.2	681.6	707.3
(ii) Non-Developmental Purposes	3319.3	3424.6	3809.8	3719.8
5. Others**	236.1	269.2	253.8	273.3
	455.3	-25.7	-73.0	-27.3

Note.: * Includes market loans, land compensation bonds, cash credits and loans from the State Bank of India and other banks (net), also loan from the National Rural Credit (Long-term Operations) Fund of the NABARD, the National Co-operative Development Corporation, Life Insurances Corporation of India, Khadi and Village Industries Commission, etc., but excludes ways and means advances and overdrafts from the Reserve Bank of India.

@ Includes repayment of market loans, land compensation bonds, as also repayment of loan from National Rural Credit (Long-term Operations) Fund of the NABARD, National Co-operative Development Corporation, Life Insurance Corporation of India, advances and overdrafts from the Reserve Bank of India.

§ Excludes purchases/sales of securities from the cash balance investment account.

** Includes remittances (net).

@@ Comprises expenditure on general services.

§§ Figures for Jammu and Kashmir and Nagaland relate to revised estimates.

PUBLIC DEBT

The aggregate liabilities of the Government of India comprising the outstanding public debt and other liabilities at the end of March, 1988 was Rs. 1,93,651 crores—an increase of Rs. 27,105 crores (16.3%) as compared to Rs. 29,064 crores (21.1 p.c.) in the previous year.

The outstanding public debt of the Government of India stood at Rs. 1,22,038 crores at the end of March 1988.

Trends in some of the more important constituents of the total debt liabilities of Government of India as in March 1988 are set out in detail below.

External Debt—The external debt of the Government of India recorded a rise of Rs. 2,219 crores (11.3 p. c.) compared with an increase of Rs. 2,145 crores in the previous year. The total external debt stood at Rs. 22,518 crores.

Internal Debt—Liabilities aggregated Rs. 99,520 crores.

Marketing Borrowings—The net receipts of the Central Government from market loans during 1987-88 amounted to Rs. 7,821.3 crores. **Treasury Bills**—The outstanding Treasury Bills of the Government of India was Rs. 8,028 crores, at the end of March 1988.

Special Floating and other loans—representing mainly India's contributions towards share capital of international financial institutions stood at Rs. 5,365 crores, at the end of March 1988.

Other Liabilities—Comprising small savings, balances in the state provident funds and public provident funds and balances in various reserve funds etc. stood at Rs. 71,613 crores.

Small Savings — The outstanding Small Savings at the end of March 1988 amounted to Rs. 29,234 crores registering a rise of Rs. 3,305 crores over the previous year. During 1986-87, Small Savings had increased by Rs. 3,193 crores. With the exception of savings under Post Office Times Deposits, savings under all other schemes registered increases during the year. Outstandings of Post Office Time Deposits declared from Rs. 11,772 crores at end - March, 1986 to Rs. 11,518 crores at end March 1987 and stood still lower at Rs. 11,333 crores at end - March 1988. On the other hand, small savings under Certificates (comprising mainly 6 year and 7 year National Saving Certificates, Annuity Certificates, Indira Vikas Patras and Social Certificates) registered an impressive rise; the outstanding amount rose to Rs. 16,787 crores at end - March 1988 from Rs. 13,431 crores at end - March 1987 and Rs. 9,873 crores at end-March 1986. Within the group the outstandings under Indira Vikas Patras introduced from November 1986 rose to Rs. 1,846 crores at end-March 1988 from Rs. 838 crores at end-March 1987. During the year under review the Government of India launched a number of small savings instruments. These include 9 per cent Relief Bonds, 1987, Kisan Vikas Patras, the National Savings Scheme and the Post Office Monthly Income Scheme. Details of these schemes have been mentioned earlier.

The outstanding debt liabilities of the State Governments increased by Rs. 9,219 crores (or + 15.2 p.c.) to Rs. 69,857 crores at the end of March 1988. Market loans and bonds of State Governments stood at Rs. 8,652 crores at the end of March 1988. The loans and advances from the Central Government for plan and non-plan purposes and loans against small savings collections from the major part of State debt which stood at Rs. 49,958 crores during 1987-88. Loans from banks and other institutions to State Governments stood at Rs. 1,885 crores at the end of 1988. Provident Fund and other funds increased by Rs. 1,816 crores (+24.7 p.c.) during 1987-88 as against a rise of Rs. 1,131 crores (+17.8 p.c.) in the previous year.

Market Borrowings, 1987-88 : Twenty State Governments extend the market in 1987 with a notified amount of Rs.1,525.8. The gross market borrowings of the State Governments in 1987 - 88 were placed at Rs.1,789 crores gross redemption during the year was Rs.284 crores.

State Borrowings, 1988 - 89 : Twenty two States extend the market on August, 1988 with a notified amount of Rs.1,239.40 crores. Total subscription amounted to Rs.1,362.30 crores. Fourteen States extend the capital market on September 26, 1988 with Rs.603.10 crores. The total subscription aggregated to Rs.662.93 crores.

*Public debt comprises (i) permanent debt, i.e. loans raised in the market in India as well as long-term securities issued to the Reserve Bank of India in conversion of ad hoc Treasury bills and Compensation Bonds issued in respect of Nationalised banks. (ii) floating debt namely Treasury bills and special floating loans representing the liability assumed in respect of special rupee securities (non-negotiable and non-interest bearing) issued in payment of India's subscription to the International Monetary Fund. International Bank of Reconstruction and Development and the International Development Association as well as contributor towards the share capital of the Asian Development Bank and (iii) external debt.

Public Debt and Other Liabilities of Government of India

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(Rupees crores)

As at the end of March

Item	1983	1984	1985	1986	1987	1988 (Revised Estimates)	1989 (Budget Estimates)
	2	3	4	5	6	7	8
A. Public Debt (1+2)	60,621	65,383	75,174	89,190	1,06,611	1,22,038	1,39,944
	(36.7)	(33.7)	(35.1)	(36.6)	(36.4)	(37.2)	
1) Internal Debt (i to vi)	46,939	50,263	58,537	71,036	86,312	99,520	1,14,405
(i) Current Market Loans	22,232	26,270	30,366	35,238	40,759	47,759	54,760
(ii) Others £	429	520	551	545	516	454	241
(iii) Special Bearer Bonds	964	964	964	964	964	964	964
(iv) Treasury Bills	17,431	15,756	19,452	26,014	19,876	25,301	33,421
(v) Special floating and other loans+	1,673	2,183	2,554	3,088	4,330	5,365	5,532
(vi) Special Securities issued to RBI	4,210	4,570	4,650	5,187	19,867	19,677	19,487
2) External Debt	13,682	15,120	16,637	18,154	20,299	22,518	25,539
Of which:							
Loans from IMF Trust Fund	538	538	538	464	296	N.A.	N.A.
B. Other Liabilities (a to d)	24,251	29,878	38,267	48,292	59,935	71,613	84,236
	(13.7)	(14.4)	(16.7)	(18.5)	(20.5)	(21.8)	
(a) Small Savings	11,098	13,506	17,157	21,449	24,725	28,024	31,725
(b) Provident Fund (i+ii)	3,420	3,747	4,159	4,603	5,505	6,405	7,405
i) State Provident Fund	3,060	3,260	3,607	3,975	4,742	5,392	6,122
(ii) Public Provident Fund	360	487	552	628	763	1,013	1,283
(c) Other Accounts*	5,369	6,621	8,380	10,781	14,698	18,878	23,557

HINDUSTAN YEAR-BOOK

(d) Reserve Funds and Deposits (i+ii)**	4,364	6,004	8,562	11,459	15,007	18,305	21,549
(i) Bearing Interest	2,464	4,273	6,198	8,600	9,854	10,978	12,322
(ii) Not Bearing Interest	1,900	1,731	2,364	2,859	5,153	7,327	9,227
C. Aggregate Liabilities (A+B)	84,872	95,261	1,13,441	1,37,482	1,66,546	1,93,651	2,24,180
		(47.8)	(46.0)	(49.4)	(52.5)	(56.9)	(59.0)
D. Amount due from Pakistan on account of Pre-partition debt	300	300	300	300	300	300	300
E. Aggregate Liabilities (C-D)							
(Net of pre-partition debt)	84,572	94,961	1,13,141	1,37,182	1,66,246	1,93,351	2,23,880

£ Comprises balance of expired loans, compensation and other bonds such as National Rural Development Bonds and Capital Investment Bonds. Annuity certificates are excluded from here and shown under small savings.

+ These represent mainly non-negotiable non-interest bearing securities issued to International Financial Institution. like the International Monetary Fund, International Bank for Reconstruction and Development, International Development Association, International Fund for Agricultural Development and Asian Development Bank.

* Includes mainly Postal Insurance and Life annuity Fund, Hindu Family Annuity Fund, borrowings against compulsory Deposits and Income-tax Annuity Deposits, Special Deposits of Non-Government Provident fund.

** Includes depreciation and Reserve Funds of Railways and Department of Posts and Department of Telecommunications, deposits of Local Funds, departmental and judicial deposits, civil deposits etc.

\$ Differs from last year report because of subsequent changes reported in the Finance Accounts.

Note Figures in brackets represent percentages to CSO estimates of Gross Domestic Product at current market prices.

Source: Finance Account of the Union Government from March 1982 to 1986 and Government of India Receipts Budget 1987-88 and 1988-89.

DEBT POSITION OF STATES

(Rs. crores)

OUTSTANDING AS ON MARCH 31

Item	1971	1976	1982	1983	1984	1985	1986	1987	1988 (Revised Esti- mates)	1989 (Budget Esti- mates)
	1	2	3	4	5	6	7	8	9	10
I. Internal Debt (a to c)	1,847	2,893	5,722	5,402	6,503	8,185	8,175	9,146	10,729	12,825
(a) Market Loans and Bonds (i + ii)	1,233	2,107	3,382	3,785	4,352	5,049	6,062	7,213	8,652	10,354
(i) Market Loans	1,143	2,033	3,328	3,735	4,298	4,990	6,001	7,147	8,586	10,288
(ii) Compensation and Other Bonds	90	74	54	50	54	59	61	66	66	66
(b) Ways and Means Advances from the Reserve Bank of India	375	287	1,313	429	667	1,420	267	156	192	194
(c) Loans from Banks and Other Institutions	239	499	1,027	1,188	1,484	1,716	1,846	1,777	1,885	2,277
II. Loans and Advances from the Central Government	6,365	9,682	19,080	20,425	27,456	31,036	39,351	44,138	49,958	56,173
III. Provident Funds, etc.*	537	1,142	2,927	3,630	4,427	5,360	6,331	7,354	9,170	10,550
Of which : State Provident Funds	471	1,022	2,571	3,163	3,816	4,599	5,352	6,156	7,661	8,715
Total Debt (I to III)	8,749	13,717	27,729	29,457	38,386	44,581	53,857	60,638	69,857	79,548

Note:

Since data have presented as per revised budgetary classification beginning the financial year 1974-75, the various components of State debt and other liabilities for 1971 are not strictly comparable with those for subsequent years. Figures for 1984 in respect of Jammu & Kashmir and for 1985, 1986 and 1987 in respect of Jammu & Kashmir and Nagaland relate to revised estimates.

Figures in respect of Bihar for 1987 relate to revised estimates.

Figures for 1987, 1988, and 1989 relate to 25 States i.e. including Tripura.

- * Figures shown here include transactions on account of Insurance and Pension Funds and Trusts and Endowments.

- £ Includes medium-term loans of Rs. 1,743 crores, Rs. 400 crores and Rs. 1,628 crores given by the Centre to States to clear their overdrafts.

Also see 'Notes on the Statements'.

Source:

Figures are taken from Combined Finance and Revenue Accounts of the Union and State Governments in India for the year 1982-83 and for subsequent years figures are compiled from State Budgets
(Report on Currency and Finance, 1987-88)

MARKET BORROWINGS OF THE GOVERNMENT OF INDIA AND STATE GOVERNMENTS

Loan	Amount of issue*	Amount subscribed*	Subscription accepted		Amount repayable in cash in respect of maturing loans	Net borrowings (3-6)
			cash	conversion		
	1	2	3	4	5	7
1970-71						
Central Government	400.00	427.87	225.73	202.14	427.87	+134.27
State Governments	142.50	163.53	124.42	32.64	157.06	+100.00
Total	542.50	591.40	350.15	234.78	584.93	+234.27
1975-76						
Central Government	600.00	660.55	468.78	191.77	660.55	+452.74
State Governments	246.75	274.54	274.54	—	274.54	+274.54
Total	846.75	935.09	743.32	191.77	935.09	+727.28
1980-81						
Central Government	2,630.00	2,870.82	2,734.26	136.56	2,870.82	+2,603.43
State Governments	299.75	399.81	283.71	49.48	333.20	+201.07
Total	2,929.75	3,270.63	3,017.97	186.05	3,204.02	+2,804.51
1984-85						
Central Government	4,207.32	4,591.08	4,289.34	301.74	4,591.08	+4,100.01
State Governments	1,178.75	1,333.18	1,070.39	230.90	1,301.29	+772.45
Total	5,386.07	5,924.26	5,359.73	532.64	5,892.37	+4,872.46
1985-86						
Central Government	5,325.00	5,763.95	5,553.95	210.00	5,763.95	+5,100.92
State Governments	1,284.00	1,414.21	1,188.82	225.39	1,414.21	+973.06
Total	6,609.00	7,178.16	6,742.77	435.39	7,178.16	+6,073.98
1986-87						
Central Government	5,800.00	6,350.52	5,883.28	467.24	6,350.52	+5,300.05
State Governments	1,312.50	1,446.39	1,404.59	41.80	1,446.39	+1,163.10
Total	7,112.50	7,796.91	7,287.87	509.04	7,796.81	+6,463.15
1987-88						
Central Government	7,105.00	7,821.35	7,730.43	90.92	7,821.35	+7,000.44
State Governments	1,625.75	1,789.17	1,755.68	33.50	1,789.17	+1,505.44
Total	8,730.75	9,610.52	9,486.11	124.42	9,610.52	+8,505.88

Central and State Government Loans

(In thousand of Rupees)

(Outstanding as on 31st March 1988)

Central Government	47,878,31,72	Manipur	49,44,55
Andhra Pradesh	931,57,99	Meghalaya	25,31,09
Assam	164,15,20	Nagaland	68,09,66
Bihar	666,35,88	Orissa	534,86,90
Gujarat	419,26,05	Punjab	233,63,03
Haryana	237,25,32	Rajasthan	662,11,40
Himachal Pradesh	51,21,92	Tamil Nadu	617,54,78
Jammu & Kashmir	84,85,67	Tripura	51,00,13
Karnataka	486,20,34	Uttar Pradesh	1,653,60,79
Kerala	478,24,40	West Bengal	5,58,02,77
Madhya Pradesh	311,44,32	Total of all States	8,778,98,89
Maharashtra	494,76,50		

(Report on Currency and Finance,
1987-88)**BANKS**

INDIAN BANKING SYSTEM—India's banking system is operated along both indigenous and western lines. Under western lines, there is the Reserve Bank of India, which is the Central Bank of the country, State Bank of India, Indian Joint Stock Commercial Bank (scheduled and non-scheduled) and Exchange Banks.

The indigenous system comprises numerous indigenous bankers, such as Shroffs, Seths, Mahajans, and the village money-lender such as Baniya, Sahukar, Khatri. The indigenous bankers occupy a very important place in the credit system of India. It is estimated that they finance about 70 to 80 per cent of the credit requirement of the country. In addition to those two systems of Indian banking, there are also Post-Office Savings Banks, Co-operative Bank, Land Mortgage Banks etc.

The Indian Joint Stock Commercial Banks are controlled and regulated by the Reserve Bank of India under the power vested in it by the Banking Companies Act of 1949. Exchange Banks finance India's foreign trade. Co-operative Banks and Land Mortgage Banks mainly undertake banking functions.

The number of public sector banks (excluding R. R. Bs) is 28 (comprising the State Bank of India and its 7 subsidiaries and 20 nationalised banks). There were 196 Regional Rural Banks at the end of March, 1988. The total number of branches of RRBs was 13,386 in March, 1988.

MEANING OF BANK—Prior to March 1949 any company which used as part of its name the word 'bank', 'bankers' or 'banking' was deemed, according to the Indian Companies Act, 1913, as amended in 1942, to be a banking company, irrespective of whether or not banking was its principal business. Under the Banking Companies Act, 1949, however, a 'banking Company' has been defined as company carrying on the business of Banking in India. Further, this Act lays down the types of business which a banking company may transact in addition to banking and prescribes minimum paid-up capital and reserve, varying with the geographical coverage of a banking company. A banking company is required to use as part of its name the word 'bank', 'banker', or 'banking' while a non-banking company is prohibited from using any of these words in its name. The

Banking Companies Act, 1949 was extended to the whole of India except Jammu & Kashmir in March 1950. However, it was extended to Kashmir in November 1956.

CLASSIFICATION OF BANKS—The Banks of India are classified as follows:

- (i) Reserve Bank of India;
- (ii) Indian Commercial Banks comprising—
 - (a) The Bank of India and other scheduled banks ;
 - (b) Non-scheduled banks, i.e. banks other than those included in the Second Scheduled to the Reserve Bank of India Act, 1934;
 - (c) 20 nationalised Commercial Banks;
- (iii) Foreign banks whose registered office are located outside the Indian Union; and (iv) State and Central Co-operative Banks, Urban Co-operative Banks, Banking unions and Industrial Co-operative Banks with capital and reserves of Rs. 1 lakh and over, registered under the laws of States whereby they are situated.

SCHEDULED BANKS—(a) have paid-up capital and reserves of an aggregate, real or exchangeable value of not less than Rs. 5 lakhs; (b) are either companies as defined in Section 3 of the Companies Act, 1956 or corporations or companies incorporated by or under any law in force in any place outside India or institutions notified by the Central Government in this behalf and (c) satisfy the Reserve Bank of India that their affairs are not being conducted in a manner detrimental to the interests of their depository, are eligible for inclusion on the Second Scheduled to the Reserve Bank of India Act, 1934, and when so included are known as 'scheduled banks'. The scheduled banks are further classified into (a) Indian Scheduled Banks, i.e. banks having their registered offices in India and (b) Foreign Scheduled Banks, i.e. banks having their registered offices outside India.

CREDIT AUTHORISATION SCHEME—was introduced in November, 1965 as a measure to align bank credit with Plan priorities. Under the scheme, the scheduled commercial banks are required to obtain the prior authorisation before releasing fresh credit limits of Rs. 5 crores or more sanctioned to any single party.

The number of parties covered by the Scheme as at the end of June, 1987 was 644 of which 179 were Public Sector Undertakings. The total limits in force amounted to Rs. 21,067 crores of which limits aggregating to Rs. 13,261 crores were in respect of Public Sector Undertakings.

RESERVE BANK OF INDIA

The Reserve Bank was established on April 1, 1935. The country had then no Central Bank. The issue of currency in hands of the Government, while the control of credit was in the hands of the Imperial Bank of India. This dual control was highly defective for advancement of banking in India. Both the Royal Commission and the Indian Central Banking Inquiry Committee appointed in 1931, recommended the establishment of a Reserve Bank.

The Reserve Bank of India was originally started as a shareholder's bank. In January 1949, it was however, nationalised. The Government of India now hold the entire capital of the Bank.

MAIN FUNCTIONS OF THE RESERVE BANK : (1) Bank of Issue—It has the sole right of issuing bank notes in India except one rupee notes which are issued by the Ministry of Finance. (2) Banker to the Government. (3) Banker's Bank—All Scheduled Banks have to keep 2 to 8 p.c. of their time and 8 to 20 p.c. of their demand liabilities with the Reserve Bank as may be fixed from time to time; (4)

(In Lakhs of Rupees)

ASSETS

Loans and Advances to

As at the close of last Friday	Notes and coins held	Balances abroad (a)	Central Govern- ment	State Gov- ernments (b)	Scheduled commercial Banks	State Co- operative Banks	Other(c)	Bills purch- ased and counted (Govern- ment Tre- asury Bill)	Invest- ments	Other assets
1955-56	11.92	89.72	-	-	-	179.94	-	12.33	47.19	17.77
1960-61	7.94	13.24	39.92	-	-	185.50	-	39.17	180.95	19.82
1961-62	25.42	15.84	80.89	-	-	177.69	-	46.60	163.43	34.24
1970-71	9.67	77.01	-	204.51	368.37	306.49	33.93	31.38	113.15	45.50
1971-72	18.26	182.17	-	625.20	207.45	323.26	88.23	69.36	87.32	46.22
1973-74	33.21	388.14	-	237.56	408.52	317.36	196.88	141.75	294.17	92.46
1974-75	42.03	511.15	-	260.32	472.72	441.01	359.37	655.17	382.40	168.07
1975-76	37.72	1,246.24	-	304.33	794.43	559.33	490.85	568.24	443.65	530.82
1976-77	36.00	1,696.00	-	327.00	967.00	488.00	648.00	531.00	215.00	969.00
1978-79	51.00	1,961.00	-	170.00	546.00	558.00	1,078.00	1,569.00	852.00	1,208.00
1979-80	24.00	2,118.00	-	191.00	739.00	488.00	1,362.00	2,516.00	1,255.00	1,340.00
1980-81	23.00	1,956.00	-	599.00	589.00	675.00	1,641.00	3,162.00	1,593.00	1,390.00
1981-82	15.00	1,274.00	-	1,906.00	831.00	891.00	1,854.00	3,191.00	2,357.00	1,314.00
1982-83	46.00	2,264.00	-	1,032.00	815.00	57.00	3,061.00	9,031.00	2,122.00	1,434.00
1983-84	15.00	3,124.00	-	1,245.00	1,336.00	53.00	3,557.00	5,630.00	2,721.00	3,839.00
1984-85	18.00	4,179.00	-	1,758.00	1,558.00	27.00	3,934.00	7,927.00	65,13.00	2,070.00
1985-86	16.00	3,859.00	-	-	954.00	33.00	4,200.00	10,501.00	7,596.00	1,606.00
1986-87	13.00	4,028.00	-	270.00	1,293.00	36.00	4,606.00	12,700.00	9,046.00	1,672.00
1987-88	15.00	3,461.00	-	246.00	1,753.00	13.00	5,528.00	3,156.00	20,869.00	1,877.00

Exchange Bank—The Reserve Bank maintains the external value to the rupee. (5) Publication of economic data. (6) Agricultural Credit—Special Agricultural Credit Department has been set up by the Reserve Bank to encourage agricultural finances. (7) General Functions—(a) accepting money and deposits without interest from the Central and State Government banks, local bodies, etc. (b) purchase, sale and re-discount of bills of exchange and promissory notes; (c) making of loans and advances to State, local authorities, Scheduled Banks, etc. (d) making of ways and means advances, to the Central or State Governments repayable within 90 days.

Liabilities and assets of the Reserve Bank of India
(1) Issue Department
(In Lakhs of Rupees)

LIABILITIES			ASSETS				
	Notes in circulation	Notes held in the Bank- ing Department	Total liabilities (total notes issued) or assets	Gold coin and bullion (a)	Foreign securities	Rupee coin(b)	Government of India rupee Securities
As at the close of last Friday							
1955-56	1,466.64	11.77	1,992.59	40.02	656.41	103.16	678.82
1960-61	1,984.74	7.84	1,992.59	117.76	123.01	119.62	1,632.20
1961-62	2,070.30	25.37	2,095.67	117.76	113.86	116.91	1,747.14
1968-69	3,496.67	29.53	2,536.20	182.63	216.42	75.77	3,061.48
1969-70	3,842.56	23.38	3,865.93	182.53	331.42	64.63	3,287.35
1970-71	4,211.77	9.59	4,221.36	182.53	273.42	51.67	3,713.73
1971-72	4,637.18	18.13	4,655.31	182.53	238.65	36.27	4,197.85
1972-73	5,253.45	18.75	5,272.20	182.53	171.65	8.66	4,909.35
1973-74	6,126.54	33.14	6,159.68	182.53	141.74	5.07	5,915.86
1974-75	6,189.97	41.93	6,231.53	182.53	121.74	12.27	5,915.36
1975-76	6,535.01	37.61	6,572.62	182.53	271.74	12.90	6,105.45
1976-77	7,743.00	36.00	7,779.00	188.00	188.00	19.00	6,500.00
1977-78	8,602.00	13.00	8,616.00	193.00	1,766.00	11.00	6,645.00
1978-79	10,267.00	51.00	10,318.00	219.00	2,694.00	38.00	7,366.00
1979-80	11,820.00	24.00	11,844.00	225.00	2,664.00	64.00	8,891.00
1980-81	13,733.00	23.00	13,755.00	226.00	2,364.00	56.00	11,110.00
1981-82	14,752.00	15.00	14,767.00	226.00	1,564.00	37.00	12,940.00
1982-83	17,000.00	46.00	17,046.00	226.00	1,564.00	26.00	15,230.00
1983-84	19,931.00	15.00	19,947.00	226.00	1,564.00	17.00	18,140.00
1984-85	23,132.00	18.00	23,150.00	246.00	1,564.00	12.00	21,328.00
1985-86	25,519.00	16.00	25,535.00	247.00	1,564.00	72.00	23,652.00
1986-87	28,762.00	13.00	28,775.00	274.00	1,564.00	45.00	26,892.00
1987-88	33,812.00	15.00	33,827.00	274.00	1,564.00	51.00	31,938.00

(Report on Currency and Finance, 1987-88)

(a) The gold reserves of the Issue Department are valued at the statutory rate of Rs. 18.21 per 10 grams up to 5 Oct. 1956, at Rs. 53.58 per 10 grams up to 31 Jan 1969 and at Rs. 84.39 per 10 grams thereafter.

(b) Including Government of India one rupee notes issued from July. 1940.

N.B. : Other liabilities include (i) paid-up capital of Rs. 5 crores (ii) reserve fund of Rs. 5 crores up to June 18, 1957, Rs. 80 crores up to January 31, 1969 and Rs. 150 crores thereafter, (iii) National Agriculture Credit (Longterm Operation) Fund of Rs. 10 crores from January 3, 1956, Rs. 15 crores from July, 1956, Rs. 20 crores from July 5, 1957, Rs. 25 crores from July 5, 1958, Rs. 30 crores from July 3, 1959, Rs. 40 crores from July 1, 1960, Rs. 50 crores from June 30, 1961, Rs. 61 crores from July 6, 1962, Rs. 73 crores from July 5, 1963, Rs. 86 crores from July 3, 1964, Rs. 100 crores from July 2, 1965, Rs. 115 crores from July 1, 1966, Rs. 131 crores from June 30, 1967, Rs. 143 crores from July 5, 1968 and Rs. 239 crores from July 6, 1973, and Rs. 284 crores July 5, 1974 (iv) National Agricultural Credit (Stabilization) Fund of Rs. 1 crore, from July 6, 1956, Rs. 2 crores from July 5, 1967, Rs. 3 crores from July 4, 1958, Rs. 4 crores from June 30, 1961, Rs. 7 crores from July 6, 1962, Rs. 8 crores from July 5, 1963, Rs. 9 crores from July 3, 1964, Rs. 10 crores from July 2, 1965, Rs. 16 crores from July 1, 1966, Rs. 25 crores from June 30, 1967, Rs. 33 crores from July, 5, 1968, Rs. 85 crores from July 6, 1973 and Rs. 95 crores from July, 5, 1974 (v) National Industrial Credit (Long term Operations) Fund of Rs. 10 crores from July 1, 1966, Rs. 30 crores from June 30, 1967, Rs. 55 crores from July, 1968, Rs. 256 crores from July 5, 1974, Rs. 205 crores from July 6, 1973, Rs. 1,915 crores from September 10, 1982 and Rs. 2230 crores from July 1, 1983.
(Report on Currency & Finance 1986-87)

INDIAN BANKS

(A) STATE BANK OF INDIA

The Imperial Bank of India was founded in 1921 by amalgamating three Presidency Banks—Bank of Bengal, Bank of Bombay and Bank of Madras. This Bank was constituted under a special Act, as it was originally thought that the Imperial Bank would function as a Central Bank and transact all business on behalf of the Government. So under the Special Act, the Government retained considerable control over the policy and functioning.

Control of the Imperial Bank was vested in a Central Board of Governors with local boards at Calcutta, Bombay and Madras. With the passing of the Reserve Bank of India Act in 1934, the Imperial Bank ceased to function as a Bank to the Government of India, although it was appointed as Agent of the Reserve Bank of India for the transaction of Government business at centre where the later did not maintain its banking officers.

(B) INDIAN SCHEDULED BANKS

The Commercial Bank of India can be classified into two classes; (a) Scheduled Banks and (b) Non-Scheduled Banks. The Reserve Bank of India maintain a Schedule and any bank which is put on that Schedule is called a Scheduled Bank.

Scheduled Bank are mainly commercial banks and provide India's international banking facilities. They receive deposits or mortgages, discount local bills, open cash credit accounts, advise loans against stock exchange securities, grains or cloth, buy and sell shares and transact other banking business. They keep the valuables of their customers in safe custody and render other services to their

customers. The agricultural business of these banks is small and is generally confined to big land-holders and planters.

There were 55,797 commercial Banks offices by the end of September, 1988, out of which 31,429 were in rural areas, 11,104 were in semi urban areas, 7371 in rban areas and 5893 in metropolitan & port towns.

There were 13 Indian Commercial Banks having 134 branch offices and 11 mobile agencies functioning in 25 foreign countries in June, 1986.

SAVINGS DEPOSITS WITH COMMERCIAL BANKS

(in Lakhs of Rupees)

Last Friday	All-Scheduled Commercial Banks	Indian Sche- duled Commercial Banks	Foreign Banks	Non-Scheduled Commercial Banks
1960-61	281,81	265,16	25,65	—
1961-62	333,70	302,47	31,23	5,88
1968-69	1,104,55	1,017,48	87,07	6,58
1969-70	1,290,71	1,188,25	102,46	6,77
1970-71	1,524,20	1,407,62	116,57	6,41
1971-72	1,847,25	1,712,65	134,60	3,72
1972-73	2,225,04	2,075,55	149,50	4,55
1973-74	2,678,89	2,518,97	159,92	5,66
1974-75	3,431,30	2,923,26	168,04	6,00
1975-76	3,661,49	3,479,60	181,89	8,72
1976-77	4,410,00	4,217,00	193,00	6,00
1977-78	5,690,00	5,482,00	208,00	5,00
1978-79	7,293,00	7,069,00	224,00	4,00
1979-80	8,844,00	8,603,00	241,00	5,00
1980-81	9,436,00	9,190,00	246,00	6,00
1981-82	12,955,00	12,692,00	304,00	5,00
1982-83	15,738,00	15,388,00	350,00	—
1983-84	17,780,00	17,399,00	381,00	6,00
1984-85	21,787,00	21,358,00	429,00	7,00
1985-86	24,622,00	24,024,00	598,00	9,00
1986-87	29,340,00	28,774,00	567,00	11,00
1987-88	33,171,00	32,546,00	625,00	15,00

(up to March 1988)

(Report on Currency and Finance 1987-88)

ALL SCHEDULED BANKS : BUSINESS IN INDIA 1988

No. of Reporting Banks	289
Liabilities to the Banking System	5018
Liabilities to Others	1,30,442
Aggregate Deposits	1,21,395
Borrowing from Reserve Bank	1,766
Cash in hand and Balance with Reserve Bank	19,090
Assets with the Banking System	5,173
Investments	47,535
Bank Credit	75,435

FOREIGN SCHEULED EXCHANGE BANKS

The Exchange Banks are financing the foreign trade of India. The Exchange Banks are incorporated outside India. They purchase bills in foreign currency, grant loans against shipping and other documents. Today also pay some part in the financing of inland trade, mainly for the movement of goods for export or of goods imported. But now they are extending their operations in the interior and are receiving deposits also on savings and fixed accounts and are engaged in financing the internal trade of India.

The Exchange Banks furnish the immediate link with the outside world of trade and commerce. The beginning dates of these Exchange Banks back to the Oriental Banking Corporation in 1842.

INDIGENOUS BANKS

The indigenous banks are those that carry on banking business according to traditional Indian methods. They are known as 'shroffs', 'seths', 'nithis', 'chet-tiyars', etc. The Indian Central Banking Inquiry Committee defined an indigenous banker or bank as an individual or private firm receiving deposits and dealing in 'hundies', or lending money. Those who do not receive deposits are to be known as money-lenders. Some of them also accept deposits from the public. Their main functions are to grant loans against the security of gold ornaments, Government securities etc. They finance movement or agricultural crops from one part of the country to another by drawing 'hundies' or internal bill of exchange. They also discount 'hundies'.

LAND MORTGAGE BANKS

The Co-operative Societies and Banks cannot grant long-term loans to their members, because the principle of co-operative lending demands that loans should be advanced on personal credit of its members. It is not possible to grant long-term advances on personal security alone. The Land Mortgage Banks therefore, supply long-term credit to the cultivator who offers his land as a security. Land Mortgage Banks have been started in all the States since 1920.

ALL SCHEDULED COMMERCIAL BANKS : BUSINESS IN INDIA 1988

	(Rs. crores)
Number of Reporting Banks	275
Liabilities to the Banking System	5,017
Liabilities to other	1,26,935
Aggregate Deposits	1,18,045
Borrowing from Reserve Bank	1,753
Cash in hand and Balances with Reserve Bank	18,962
Assets with the Banking System	4,745
Investments	46,504
Bank Credit	70,536

Working Results of the Public Sector Banks

Nationalised Banks : The published profits of the 20 Nationalised Banks for the accounting year 1987 aggregated to Rs. 206.96 crores. Out of this, the 20 Nationalised Banks transferred Rs.93.43 crores to Statutory Reserves and Rs. 42.60 crores to the Central Government.

The total paid up capital of the 20 Nationalised Banks went up from Rs. 917.99 crores as at the end of 1986, to Rs.1117.99 crores as at the end of 1987.

State Bank of India : The published profits of State Bank of India for the year 1987 were Rs. 45.51 crores. State Bank of India disbursed an amount of Rs. 15.38 crores as dividend and transferred a sum of Rs. 30.12 crores to the statutory reserves, after bringing forward a surplus of Rs. 0.26 crores, from the last year's account. The total statutory reserves of SBI as at the end of December '87 were Rs. 734.31 crores.

The State Bank of India also made a fresh capital issue on a right basis and increased its paid up capital from Rs.50 crores as at the end of December, 1986 to Rs.150 crores as at the end of December, 1987.

Associates Banks of State Bank of India—The 7 Associate Banks of State Bank of India had published profits Rs. 9.33 crores. Out of this, an amount of Rs. 1.43 crores was disbursed as dividend and an amount of Rs. 7.90 crores was transferred by these banks to their statutory reserves to strengthen their capital base. The total reserves of the 7 Associate Banks of SBI as at the end of December 87 were of the order of Rs. 32.70 crores.

Fresh funds amounting to Rs.90.60 crores have been injected to the paid up capital of seven associate banks during the year 1987. The total paid up capital of the seven associate bank of SBI has therefore gone up from Rs.22.45 crores as at end of 1986 to Rs.113.05 crores as at the end of 1987.

Indian Bank abroad — As on 30th, November, 1988, 9 Indian Banks had 119 branches in 25 Countries.

Branches of Foreign Banks in India — As on 30th November, 1988, 21 Foreign Banks had 136 operating branches in India.

INSURANCE

NATIONALIZATION OF INSURANCE—The Government of India took over in 1956 the life insurance business in its own hands. The Life Insurance Corporation of India is a statutory body, which came into existence on September 1, 1956.

Insurance Division functions under the Department of Economic Affairs in the Ministry of Finance.

LIFE INSURANCE CORPORATION OF INDIA — Life Insurance in India entered into a new and promising era with the setting up of the Life Insurance Corporation of India when the Union Government promulgated an Ordinance on January 19, 1956 for taking over the management of Life Insurance Companies. There were over 240 Companies, Indian and foreign, transacting life insurance business in India. The total number of policies on the books of these companies was nearly 50 lakhs, assuring, with bonuses, more than Rs. 1000 crores with an annual premium income of approximately Rs. 55 crores. The Corporation took over all

the assets and liabilities of 243 insurers, including three State Insurance Departments. From 1963-64, the Corporation has started General Insurance business.

CONSTITUTIONS OF THE CORPORATION—The Corporation has been established by an Act of Parliament which received the assent of the President on June 18, 1956. The Act came into force on July, 1, 1956 and the Corporation began to function on 1st September, 1956.

ADMINISTRATIVE SET-UP—The management of the Corporation has been vested in a Board of Directors, including the Chairman who is the Chief Executive of the Corporation. He is assisted by two Managing Directors and several functional Directors at the Central Office Bombay.

THE CORPORATION HAS 5 ZONAL OFFICES— One each at New Delhi, Kanpur, Calcutta, Madras and Bombay and 38 Divisional Offices— 36 at important centres in various States in India and 2 Overseas—one at Nairobi (East Africa) and the other at Kuala Lumpur (Malaysia). As on 31st March, 1988 the Corporation had 1,353 branch offices and 12 development centres.

During the year ended 31st March, 1988, the L.I.C. transacted in India new business of Rs. 12,434.5 crores under 46.94 lakh policies as against Rs. 9,067.5 Crores under 32.86 lakh policies during the preceeding year. During the year ended 31st March, 1988, the new business in Group Schemes issued and renewed was Rs. 13,821.5 crores providing cover of 116.92 lakhs lives as against Rs. 10,850.50 crores providing to cover to 95.31 lakhs lives during the preceeding year. The total premium income of the corporation during 1987-88 was Rs. 2,671.9 crores. The Corporation life fund on 31st March 1988 was Rs. 16,631.8.

JEEVAN DHARA — This plan was introduced with effect from 3.10.87, and provides for the payment as on annuity to a person from a devised age of 50 years and above with the provision as payment of lump sum amount on death of any time, after the pension starts. For this purpose the insured can pay the premiums during the working period of his life. Under this plan, bonuses are attached to the policy twice in the form of terminal additions, one at time of commencement of the pensions and secondly, at the time of death, when the lump sum amount is paid to the nominees.

JEEVAN AKSHAY — This plan was introduced with effect from 5.2.1988 and provides for immediate payment of an annuity every month to persons aged 50 years and above. The amount is payable as long as the insured is alive with the provision that a lump sum amount together with the one time bonus addition is payable to the nominee upon the death of the annuitant. The plan is mostly suitable for old person.

GOVERNMENT GUARANTEE — the sums assured by all Policies issued by the Corporation will be guaranteed as to payment in cash by the Government of India.

COMMENCEMENT OF RISK — The risk under the Corporation's policies commences on the date of receipt of the first premium in full or the date of acceptance, whichever is the later, and the second installment of the premium falls due to on a date calculated from such date of commencement of the risk.

NON-FORFEITURE REGULATIONS—applicable to the Corporation's policies, constitute a valuable privilege which secures automatically to the policy-holders and his dependents in the events of cessation of the payment of the premiums under Policy a reduce Paid-up Assurance subject to the provision that premiums have been paid under the Policy for not less than two years and that such Paid-up Assurance, inclusive of any attached bonus, in the case of a Policy for a sum

assured of Rs. 1000 or over is not less than Rs. 100 and in the case of a Policy for a sum assured of less than Rs. 1,000 or over is not less than Rs. 50. In the case of Policies entitled to participation in profits, all Bonuses declared and still attaching to the Policy at the date of cessation of payment of the premiums remain attached to the reduced Paid-up Policy but the Policy is not entitled to participate in the profits declared thereafter.

New Business (1987-88)

	(Rs. in Crores)
Individual Insurance :	Rs. 12,434.5
Sum assured No. of policies	46.94 lakhs
Group Insurance :	Rs. 13,821.5
No. of lives	116.92
Rural Business	Rs. 3,997
No. of Policies	18,28
Life Insurance Fund :	
Fund at the beginning of the year	14,502.2
Fund at the end of the year	16,631.8
Percentage increase	14.7

Investment of life Insurance Corporation of India :

The investment of the Corporation in the stock exchange securities and loans in India increased from Rs. 12,813 crores on 31st March, 1987 to Rs. 14,712 crores on 31st March, 1988. The sector-wise break-up of investments in India as on 31st March, 1988, was as under :

Sector	Amount (Rs. in crores)	Percentage to total
Public Sector	11,837	80.5
Co-operative Sector	1,162	7.9
Private Sector including	1,713	11.6
Joint Sector	14,712	100.0

Loans continue to constitute one of the major avenues of investment of the Corporation funds. In granting these loans, the Corporation lays particular emphasis on financing Socially Oriented projects, such as (a) Generation and transmission of electricity for agriculture and industry; (b) Housing schemes; (c) Piped water supply and sewerage in urban areas and townships; (d) Piped water supply schemes in rural areas; (e) Development of Transport; and (f) Industrial development. The table below shows the loans amounts advanced and loan amounts outstanding as on 31st March, 1988

	Amount (Rs. in Crores)	
	Advanced upto 31st March, 1988	Outstanding as on 31st March, 1988
(a) State Authorities & Other Authorities in States :		
1. State Electricity Boards	2273.7	1378.9
2. State Government (for housing scheme)	786.7	552.4

3. Apex Co-op. Housing Finance Societies etc.	1153.4	779.9
4. Municipal Committees and State Govts. for Urban Water Supply Schemes.	659.8	495.4
5. Zilla Parishads for rural piped water Supply Schemes	151.4	133.8
6. Sugar Co-op. Societies	37.2	13.1
7. Industrial Estates	38.2	12.8
8. State Road Transport Corporation	200.6	122.3
9. Development Authority Nagaland	1.4	1.0
10. Joint Stock companies	1052.9	576.9
Total	6355.5	4066.5

Amount (Rs. in Crores)

Other Authorities:

1. Loans to HUDCO	78.0	53.7
2. Loans to North eastern Power Corporation	85.0	76.9
3. Loans to Public Sector companies	72.0	32.0
Total	235.0	162.6
Total of (a) plus (b)	6590.5	4220.1

Total Business done by Rural Career Agent numbered 4,394 during the year 1986-87 was Rs. 154.5 crores under 89,824 policies.

LIC has increased the rates of bonus to the total of Rs. 77.50 per thousand sum assured per annum under whole life policies and Rs. 62 per thousand sum assured per annum Endowment Assurance.

16.5 lakhs claims amounting to Rs. 994.8 crores were settled during the year 1987-88

LIC has so far constructed 2925 flats & houses in different townships.

The numbered of employees in the services of the Corporation in India as on 31st March, 1988 was 72,619

ASSOCIATE BODIES

INSURANCE ASSOCIATION OF INDIA — 'All insurance companies in India constituted themselves into Insurance Associate of India in 1950. The Association has two councils namely the Life Insurance Council and the General Insurance Council with membership confined to insurers carrying on life and general insurance business respectively. With the nationalisation of life insurance business in India, the Life Insurance Council has evolved a code of conduct for observance by general insurers with the object of eliminating various alleged malpractices relating to payment of excessive commission. With a view to tightening control over general insurance business the executive committee has recommend certain standards of solvency and minimum departmental reserves to be maintained by insurers on voluntary basis.

REINSURANCE CORPORATION OF INDIA — In consolation with the Government of India, insurers carrying on general insurance business in India have set up Reinsurance Corporation of India to check drain on account of reinsurance from India. All member insurers will compulsorily cede to the Corporation an agreed amount of their annual premium income. Capital of the Corporation has been subscribed by both the Indian and foreign insurers.

PROVIDENT SOCIETIES—These Societies, formed under the Provident Societies Act, serve people of moderate means. The maximum amount that could be insured with a Provident Societies is Rs. 1,000.

DEPOSIT INSURANCE CORPORATION—The number of insured Commercial Banks was 80 in 1973-74.

The Employees' State Insurance Act of 1948, as amended in 1951, applies to all perennial factories using power and employing 20 or more persons and covers labourer and electrical staff with monthly earning up to Rs. 400. A Central Fund has been set up under the Scheme.

Workers get free medical advice and treatment at special dispensaries or, if necessary, in their homes. They are admitted to hospitals free of cost and in remote areas medical aid reaches them in mobile dispensaries. If they fall ill, they receive a little more than half the daily wages as sickness benefit and can go on receiving it for 8 weeks in any period of 365 days. If they are injured in the course of their duties, they get a cash benefit in instalments and if the injury disables them permanently, they get benefits for the rest of their lives. If the injury proves fatal, long-term pensions are given to their dependents.

The Governments of India pay two-thirds of the administrative costs and the State Governments meet a share of the medical expenses. Employers meet part of the expenditure, whereas workers make their contribution only in areas where the scheme is already in force.

OTHER INSURANCE FUNDS—Employees Provident Funds Act of 1952 applies to all employing 50 more workers and all workers with monthly earning of Rs. 500 or less are required to make minimum contribution of 6 1/4 p.c. of their income. Coal Mines Provident Fund Act requires workers to contribute 6 1/4 per cent of their basic wages and dearness allowance.

REVENUE

Organisation and functions.

The Department of Revenue functions under the overall direction and Control of Secretary (Revenue). It exercises control in respect of revenue matters relating to all the direct and indirect union taxes, through two statutory Boards under it, viz. the C.B.D.T. and the C.B.E.C. Matters relating to the levy and collection of all direct taxes are looked after by the C.B.D.T. whereas those relating to levy and collection of Customs and Central Excise duties fall within the purview of the C.B.E.C. The two statutory Boards were constituted under the CBR Act, 1963. Each Board has a Chairman and six Members, who are also at present ex-officio additional Secretaries to the Government of India.

The Gold Control Act, 1968 is administered by the Gold Control Administrator, who is also an Additional Secretary. The head quarters administration of the Department of Revenue is also looked after by him. In addition, he is responsible for technical co-ordination between the two Boards. Matters relating to the administration of the Indian Stamp Act, 1899 (to the extent falling within the jurisdiction of the Union), Central Sales Tax Act, 1956 and the Official Languages Act, 1963, and the rules framed thereunder, are also looked after by him. Besides, he is responsible for the administration of (i) the Settlement Commission for Income-tax and Wealth-tax, (ii) the Appellate Tribunal for Forfeited Property, and (iii) Customs Excise and Gold (Control) Appellate Tribunal.

Excise Duties and revenue from Customs duties during 1986-87 and 1987-88 are given below :—

1986-87				1987-88			
Budget	Estimates	Actual	Realisation	Budget	Estimates	Actual	Realisation
Excise Duties		13,984.81	14,407.29	16,751.80		16,552.58	
Customs Duties		10,404.10	11,470.72	12,866.92		13,635.75	

Anti-Smuggling Measures

During 1988 the drive against smuggling, tax evasion, etc. was intensified throughout the country in view of government's firm resolve to continue to take strict action against socio-economic evils. The anti-smuggling machinery was geared up particularly in the vulnerable areas of the sea-coasts, land border regions and airports to check and detect smuggling both into and out of the country. The emphasis was both on the strengthening of the machinery for collection of intelligence as well as co-ordinated action by the various agencies to achieve maximum results in the nature of seizures, arrests, preventive detention under COFEPOSA and disposal of confiscated goods.

During the year, a Central Committee of Senior Officers of Directorate of Revenue Intelligence, the Coast Guard, the B.S.F. and the Department of Revenue was constituted to enable the agencies concerned to exchange information and to take co-ordinated action so that the total anti-smuggling effort is strengthened.

TRENDS IN SMUGGLING

The details of the value of Sector-wise seizures during the year 1988 as compared to the seizures during 1987 are given below :—

Value : Rs. in crores

Sector	1987	1988
West Coast	123.61	192.74
East Coast	35.83	43.49
Indo-Pak Border	30.30	23.15
Indo-Nepal Border	12.87	14.17
Indo-Bangladesh Border	6.57	6.10
Indo-Burma Border	0.50	0.66
Indo-Srilanka Boader.	6.26	5.90

The entire West Coast of the country, and the Indo-Nepal border continue to be vulnerable to organised smuggling activities. As a result of the tightening of the Anti smuggling measures on the west coast, this smugglers have started shifting their activities on the East Coast.

COMMODITY-WISE TRENDS OF SMUGGLING

The main items which have been identified as sensitive to smuggling are : Gold, Silver, Diamond and precious stones, Synthetic fabrics; Watches; Electronic goods; Narcotic drugs; and Indian and foreign currency.

Results of various anti-smuggling measures taken

As a result of the intensified anti-smuggling measures, the seizures effected continued to show an increasing trend in 1988 also. As against seizure of a value of Rs.250.02 crores

during 1987, goods worth Rs. 376.88 crores were seized upto November, 1988. The commodity-wise break-up of goods seized during 1987 and 1988 are given below :-

Commodity	Value Rs. in lakhs	
	1987	1988
Gold	6544	14.741
Watches	1100	309
Indian currency	436	592
Foreign currency	437	633
Synthetic fabrics	876	999
Silver	906	1074
Electronic goods	1718	1602
Other goods	12985	16788

Statistical data of important items/work in the anti-smuggling sphere during the years 1987 and 1988 are given below :-

	1987	1988
1. (i) No. of seizures of smuggled goods	49,551	51,799
(ii) Value of smuggled goods seized (Rs. in crores)	250.02	354
2. (i) No. of raids and searches conducted	9,402	7,000
(ii) Value of goods seized as a result of raids and searches (Rs. in crores)	17.02	22.28
3. (i) No. of persons arrested for smuggling offences	2125	2860
(ii) No. of persons prosecuted	2010	1893
(iii) No. of convictions obtained	598	655
4. (i) No. of COFEPOSA Detention orders issued	936	1382
(ii) No. of persons detained	775	1011

Anti - Evasion

During the year 1988 the drive against evasion of Central Excise duty continued unabated. The comparative data regarding cases detected, amount of duty involved etc. for the last 5 years is given below :-

Year	No. of cases detected	Estimated evasion of duty detected (Rs. in crores)	Average amount per case (Rs. in lake)	No. of prosecutions launched
1984	5433	64.48	1.18	80
1985	7402	340.83	4.60	224
1986	7521	539.87	7.17	177
*1987	6663	1198.72	17.99	128
1988	4333	297.77	6.87	94

[* upto Oct, 1988]

Narcotics Department

During the year, exports of Indian opium continued to face the competition from alternate opiate raw materials with the result that the exports had slumped to 466 tonnes (1987-88) as compared to 642 tonnes during 1986-87.

Quantities of drugs seized in 1988 :

Name of drug	Quantity (kgs) (upto November)
1. Opium	2755
2. Heroin	2819
3. Hashish (Charas)	17224
4. Methaqualone	1365
5. Ganja	33186

Figures provisional and rounded off to the nearest Kg.

CENTRAL BOARD OF DIRECT TAXES

Direct Taxes play a significant role not only as a source of revenue but also as an instrument to achieve socio-economic objectives. Direct taxation is a progressive measure and it effectively brings about distribution of income and wealth and helps usher in egalitarianism. Presently, the tax administration is exercised about rationalisation and simplification of tax laws and also adopting modern methods of combating tax evasion. The administration has been giving very high priority to welfare measures of the officers and staff working in the Department while ensuring high standards of integrity. The Income-tax Department is going in for computerisation at all major centres.

The Department is entrusted with the task of administering the following tax laws :

- (1) Income-tax Act 1961
- (2) Wealth-tax Act 1967
- (3) Gift-tax Act 1958
- (4) Expenditure-tax Act 1987

The Department is also administering the Estate-duty Act 1953, Interest-tax Act, 1974, C.D.S. Act 1974, Hotel Receipt Tax Act 1980 in respect of old cases.

The Central Board of Direct Tax is the apex organisation which directs the work of the Income-tax Department. It is responsible for the formulation of policies relating to tax administration. It also discharges various statutory functions entrusted to it by the enactments mentioned above. The Chairman and Members of the Board are ex-officio Additional Secretaries to the Govt. of India. The Board has several attached offices and subordinate offices all over the country.

Revenue Collections

Upto 31.3.89 the net collections of Income-tax was to the tune of Rs. 8520 crores as against Rs. 6,620.00 crores during corresponding period of last year.

The original budget estimates and the actual collections in respect of the various direct taxes during the last four years are given below :—

	1985-86		1986-87		1987-88		(in crores of Rs.) 1988-89	
	Budget Estimates	Collection	Budget Estimates	Collection	Budget Estimates	Collection	Budget Estimates (Revised)	Collection
Corporation Tax	3052.00	2583.64	3123.00	3159.96	3650.00	3433.00	4270.00	4313.94
Income Tax	1764.00	2795.59	2588.00	2878.05	3350.00	3187.00	3660.00	4206.00
Estate Duty	22.50	21.96	15.00	13.39	9.00	8.02	3.25	6.11
Tax on Wealth	104.00	153.00	100.00	174.00	120.00	100.58	120.00	115.06
Gift-Tax	10.00	12.00	11.00	9.00	10.00	8.23	10.00	5.59
Expenditure Tax	—	—	—	—	20.00	5.69	36.00	36.58

Assessments

The following figures will indicate the growth rate of Income-tax payers in the country :—

Year	Number (in lakhs)
1983-84	49.30
1984-85	49.35
1985-86	54.86
1986-87	62.61
1987-88	77.61

The work load and disposal of assessments in the last two years were as follows (in lakhs) :—

	Assessment for Disposal	Disposal
1986-87	85.15	70.56
1987-88	75.73	64.65

The disposal of income-tax assessment upto 31.1.89 is as follows (in lakhs):—

For disposal	Disposal
61.45	42.74

The claims for refunds are disposed of expeditiously. The following figures will show that a large majority of the claims were disposed of :—

Financial Year	Total No. of claims for disposal	Total disposed of
1982-83	1,39,222	1,14,301
1983-84	1,46,535	1,17,079
1984-85	1,49,254	1,25,614
1985-86	1,44,136	1,25,525
1986-87	1,28,000	1,04,000
1987-88	1,06,595	94,196
1988-89	70,667	49,117
(upto Dec. 1988)		

Refunds arising out of Appellate and Revision Orders :

Financial Year	Total No. of claims for disposal	Total disposed of
1982-83	98,376	92,696
1983-84	99,309	93,423
1984-85	91,724	86,112
1985-86	96,630	90,786
1986-87	72,000	68,000
1987-88	1,98,348	1,62,882
1988-89	1,05,094	81,315
(upto Dec. 1988)		

GOLD CONTROL ADMINISTRATION

Gold Control is administered under the Gold (Control) Act, 1968 and the rules and regulations made thereunder. The Gold Control Administrator is also an Additional Secretary to the Government of India in the Ministry of Finance (Department of Revenue). Apart from the Secretariat office in New Delhi, the Administrator has a Regional Office at Bombay, headed by a Deputy Secretary.

The Gold (Control) Act is implemented through the various Collectors of Central Excise and Customs working under the Department of Revenue.

Regulation of trade in gold and declarations made under the Gold (Control) Act :-

The Gold trade is regulated by a system of licensing of dealers and certification of goldsmiths through maintenance of prescribed accounts of submission of returns. Statements showing (a) number of certified goldsmiths, number of licensed dealers, turnover of licensed dealers (b) the quantity of ornaments tendered by gold dealers to the Mint and the standard gold bars issued by the Mint and (c) the number of cases detected, quantity of gold seized and prosecutions launched under the Gold (Control) Act is as under :-

Number of certified goldsmiths/dealers and turn-over.

Year	No. of Licensed Gold Dealers	No. of certified Goldsmiths	Turnover of licensed dealers(Kgs.)
1986	14,641	3,36,761	69,799
1987	15,035	3,47,875	78,250
1988	15,713	3,62,307	—

Quantity of ornaments etc. tendered to the Mint and standard gold bars issued.

Year	Quantity of primary gold & gold Ornaments tendered by the licensed gold dealers.	Quantity of gold bars issued by the Mint.
1986	20,493	17,021
1987	18,028	15,979
1988	17,738	13,433

No. of cases detected, quantity of gold seized and prosecution launched under the Gold (Control) Act.

SEIZURES			PROSECUTIONS	
Year	No. of cases	Qty. of gold seized (kgs).	Value (in lakhs of Rupees)	Prosecutions launched
1986	1074	719.000	1463.00	116
1987	1004	472.549	1243.86	245
1988	910	1121.194	3481.34	352

(Upto 31.11.1987)

No. of Appeals pending as on 31.12.1987:- 511

No. of Appeals pending as on 31.12.1988:- 754

SALES TAX

The Department of Revenue handles legislative work relating to Central Sales Tax levied on inter-state sales of goods. The administration of Central Sales Tax has been entrusted by law to the State Governments who collect and retain the proceeds of such tax. The levy of tax on sales or purchases taking place inside a State, is a State subject of taxation.

The total collection of sales tax, including Central Sales Tax, General Sales Tax, on motor spirit and Purchase Tax on sugarcane for 1988-89 is estimated at Rs. 10,767 crores. The total collection for 1988-89 from Additional Excise Duty, in lieu of Sales Tax, on sugar, tobacco and textiles is estimated at Rs. 1,366 crores.

FIVE-YEAR PLANS

History of Planning in India—The idea of planning in India was first, conceived by the Late M. Visvesvaraiya in the wake of Russian Five-years Plan in his book *Planned Economy of India*. This idea of planning was further taken up by the Indian National Congress which set up a National Planning Committee under Late Jawaharlal Nehru. But This committee's work remained unfulfilled due to the "Quit India" movement launched by the Congress in 1942 and the Second World War. The Government of India was, however, doing some spade work under the Department of Planning and Development organised by Sir Ardesahir Dalal of Bombay. Other Planning programmes were also conceived by several bodies, such as Bombay Plan drawn up by eight industrial magnates of Bombay. People's Plan drawn up by M.N. Roy, the Gandhian Plan by S.N. Agarwal etc. When India became independent in 1947, the Government of India appointed in March 1950, a Planning Commission which is carrying out the Five-Year Plans.

Beginning of Five-Year Plans—the Five-Year Plans operated in terms development. The State has to imitate development on a broad front. The Directive Principles of State Policy as laid down in the Indian Constitution, India's Plan require the State to play an active role in economic must plan its own investment and influence and regular economic activity within the private sector so as to ensure the co-ordination development of all available resources. Within the broad principles implied in the Five-Years Plans, private enterprise has been assigned an important role in development.

The goal of a socialistic pattern of society involves special emphasis on the needs of small producers and envisages a rapidly growing co-operative sector in medium and small-scale industry, trade and distribution and in many fields of social services.

The industrial policy of the Government, as defined in the industrial Policy Regulation of 1956, is not meant to imply that they are being placed in a watertight compartment. In practice the policy has been operated in a flexible manner.

India's Plans need capital which has to be mobilised from internal savings and through assistance from abroad.

The Planning Commission was set up in March 1950. A draft outline of the First Five-Year Plan was presented by the Commission in July 1951. The final Plan came in December 1952.

The First Plan covers the five financial years from 1951-52 to 1955-56; the Second Plan from 1956-57 to 1960-61; the third Plan from 1961-62 to 1965-66 and the Fourth Plan from 1966-67 to 1970-71.

Central Objective to the Plan—Self-reliance and self-sustained growth are the twin objectives of the Indian Planning to raise the standards of living and opening to the people new opportunities for a richer and more varied life. It must therefore, aim both at using more effective the available human and material resources and at reducing inequalities in income, wealth and opportunity. Economic planning has to be viewed as an integral part of a wider process aiming not merely at the development of resources in a narrow technical sense, but at the development of human faculties and the building up of an institutional frame work adequate to the needs and aspirations of the people. Upon the success of Indian planning depends the future of Socialism in our country.

FIRST PLAN

Major Objective—The Five Year Plan had a two-fold objectives to correct the disequilibrium in the economy caused by the Second World War and the partition of the country. The immediate aim of the Plan was to provide answer to the problems of high and rising prices, shortages of raw materials and of essential consumer goods and the relief and rehabilitation of displaced persons. The long-term objective was to initiate a process of planned economic development.

It had emphasis on irrigation power projects and transport. About 44.6 p.c. of the total outlay of Rs. 2,069 crores in the public sector (later raised Rs. 2,356 crores) was allowed for their development. It also initiated some of the basic policies by way of social change and institutional reform.

As outlay of Rs. 20,000 million (later increased to Rs. 24,000 million) was proposed for the public sector. This together with an estimated investment of Rs. 16,000 million in the private sector was expected to lead to an 11 per cent increase in national income. Investment in the economy rose from an annual rate of Rs. 4,500 million in 1950-51 to about Rs. 6,750 million in 1955-56 i.e. from 5 p.c. of national income.

Results—The targets in terms of development outlay were fully realised in the case of private sector. But in public sector, the position was not satisfactory.

SECOND PLAN

Major Objective—(1) An increase of 25 percent in the national income so as to raise the standard of living in the country ; (2) rapid industrialisation with particular stress on the development of basic and heavy industries ; (3) large expansion of employment opportunities ; and (4) reduction of inequalities in income and wealth and more even distribution of economic power.

The Plan proposed an outlay of Rs. 48,000 million in the public sector, of which Rs. 38,000 million was to be invested. Investment in the private sector was estimated at Rs. 24,000 million. Total investment at the Second Plan was twice than that in the First Plan.

Achievement—the Second Plan came into operation on April 1, 1956. But the Plan met with serious difficulties from the beginning. The causes were : (1) Fall in food production ; (2) Foreign Exchange crisis ; (3) Fall in industrial production ; (4) Lack of financial resources ; (5) Rise in the cost of production ; (6) Fall in savings and loans ; (7) Rise in prices.

The Second Plan came to a close in March, 1961. National income over the period of the Plan increased by 20 percent. Industrial production went up by some 41 per cent and agriculture production by nearly 20 per cent. The rate of investment had incurred from 8 per cent at the beginning of the Plan to about 11 per cent.

THIRD PLAN

Major objectives—(1) To secure a rise in national income of over 5 p.c. per annum ; (2) To achieve self-sufficiency in foodgrains and increase in agricultural production to meet the requirements of industry and exports ; (3) To expand basic industries like steel and chemicals, fuel and power and establishing machine building capacity for further industrialisation within a period of 10 years or so, mainly from the country's own resources ; (4) To utilise to the fullest extent the manpower resources of the country and to ensure substantial expansion in employment opportunities ; (5) To establish progressively greater quality of opportunity and to bring about reduction in disparities in income and wealth and a more even distribution of economic power. The national income was to increase by about 30 per cent from Rs. 14,500 crores in 1960-61 to about Rs. 19,000 crores by 1965-66 and per capita income by about 17 percent from Rs. 330 to Rs. 385 during the same period.

Plan Outlay—The Plan outlay in the public sector was about Rs. 75,000 million ; in addition, Rs. 41,000 million was in investment in the private sector. The rate of investment was expected to go up from 11 per cent to 14 percent by end of the Plan. The Plan proposed additional taxation of Rs. 17,000 million in five years. The foreign exchange requirements for the plans of the public and private sector together were placed at Rs. 21,000 million. This was apart from the commonly assistance of over Rs. 6,000 million negotiated and Rs. 5,000 million needed for the refinancing of maturing external obligations.

FOURTH PLAN

The situation created by the Indo-Pakistan conflict, two successive years of severe drought,

devaluation of the currency, general rise in prices and erosion of resources available for plan purposes delayed finalisation of the Fourth Five-Year Plan. Instead between 1966 and 1969 three Annual plans were formulated within the framework of the outline of the Fourth Plan. They took into account the conditions prevailing at the time.

Major Objectives—The draft Outline of the fourth Five-Year Plans was presented to Parliament on August 29, 1966.

The Outline had set out eight principle tasks for the next five years :

(1) To achieve Self-reliance as early as possible. The highest priority will be given to all schemes of agricultural and industrial production which will promote exports and replace imports.

(2) To make the price stable, all inflationary factors will be kept in check and there will be no deficit financing i.e. gaps between resources and requirement will not be filled by printing currency notes.

(3) Every possible effort will be made to get the maximum agricultural production in order to enlarge the income of the rural people as well as to increase the supplies of food articles and agricultural raw materials.

(4) For this purpose, the higher priority in industrial development will be given to the production of fertilizers, insecticides, agricultural implements, diesel engines and tractors.

(5) Production of articles like textiles, sugar, drugs, kerosene and paper will be stepped up in order to have larger supplies of essential goods which the masses of our people consume.

(6) For the continued growth in the metals, machinery, chemicals, mining, power and transport industries, which are important both for national defence and economic self-reliance, schemes, already in hand will be complete as quickly as possible and only those new schemes will be undertaken which are essential to keep up the momentum of growth already built up and to meet the basic needs of the country during the Fifth Plan.

(7) In order to limit growth of population, there will be a massive countrywide family planning drive.

(8) For the development of human resources the social services will be given as much facilities as possible, these will also be oriented in order to increase productivity.

Union Cabinet on 4th February, 1970 and the National Development Council on 22nd March, 1970 approved the revised Rs. 24,822 crores outlay for the Fourth Plan (1969-74). The plan aimed at increasing the net domestic product at 1968-69 factor cost from Rs. 29,071 crores in 1969-70 to Rs. 38,306 crores in 1973-74. In terms of 1960-61 prices, this implied an increase from Rs. 17,851 crores in 1968-69 to Rs. 22,862 crores in 1973-74. The average annual compound rate of growth envisaged was 5.7 per cent.

It showed an increase of Rs. 484 crores over the figure indicated in the Draft Plan. In the revised outlay, Rs. 15,902 crores would be for the public sector, consisting of Rs. 8,871 crores for the Centre, Rs. 6,606 crores for the States, and Rs. 423 crores for the Union Territories. There was thus increase of Rs. 1,504 crores in the sector—Rs. 937 crores for the Centre, Rs. 540 crores for the States and Rs. 27 crores for the Union Territories. For the private sector, the revised outlay was Rs. 8,980 crores.

The net increase in industry and minerals worked out at Rs. 240.86 crores. The revised outlays for States Plans (in crores of rupees) were, Andhra Pradesh 420.50, Assam 261.75, Bihar 531.28, Gujarat 455.00, Haryana 225.00, Jammu and Kashmir 158.40, Kerala 258.35, Madhya Pradesh 383.00, Maharashtra 898.12, Karnataka 350.00, Nagaland 40.00, Orissa 222.60, Punjab 293.56, Rajasthan 302.00, Tamil Nadu 519.36, Tripura 34.66, Uttar Pradesh 965.00 and West Bengal 322.50.

For Union Territories the revised outlays proposed (in crores of rupees) were : Arunachal Pradesh 17.99, Andaman and Nicobar Islands 14.00, Chandigarh 7.75, Dadra and Nagar Haveli, Delhi 162.3, 2.30, Goa, Daman and Diu 39.50, Himachal Pradesh 101.40, Lakshadweep 2.00, Manipur 30.25, and Pondicherry 12.50.

FIFTH PLAN

Strategy—The fifth Plan strategy envisages, among other things (1) 5.5 per cent overall rate of growth of gross domestic product; (2) expansion of productive employment; (3) a National Programme for Minimum Needs; (4) extended programmes of social welfare; (5) emphasis on agriculture, key and basic industries producing goods for mass consumption; (6) adequate public procurement and distribution system for essential consumption goods to poor people at reasonable prices; (7) vigorous export promotion and import substitution; (8) rigorous restraint on in essential consumptions; (9) an equitable prices-wages-incomes balance; (10) institutional, fiscal and other measures for reduction of social, economic and regional inequalities.

Plan cost and how—In terms of 1972-73 prices and the performance of the economy in 1972-73 as also the Central and State budgets for 1973-74, the Fifth Plan outlay has been raised to Rs. 53,411 crores that is, by Rs. 2,246 crores, compared to the estimates in the Approach Document.

The net inflow of funds, because of the compulsions of the balance of payments position, has been taken Rs. 1,228 crores higher. The balance of Rs. 1,019 crores is accounted for by larger additional resource mobilisation of Rs. 235 crores and by larger accrual of Rs. 784 crores or resources on the revised basis of 1973-74 rates of taxes and prices of supplied goods and services.

The rise in development costs has thus been neutralised to the extent of 4.4 per cent by higher provision for development outlays.

Growth rate—Again the projects overall rate of 5.1 per cent per annum in the Fourth Plan the economy experienced a rate of growth of 5.2 percent in 1969-70. It fell to 4.2 per cent in 1970-71 and 0.6 per cent in 1972-73.

Foreign aid—The envisaged net aid during the Fifth period works out to only 3.1 per cent of total investment and 4.6 per cent of public sector investment as against the corresponding figures of 8.2 per cent and 13.6 per cent in the Fourth plan.

The overall gap in our foreign exchange reserves has been projected to decline from Rs. 783 crore in 1978-79 to Rs. 100 crores in 1983-84 and disappear altogether in 1985-86.

Export and Imports—A vigorous export effect is crucial to our self-reliance. Export have been projected to grow at the rate of 7.6 per cent per annum during the Fifth and Sixth Plans and at 7 per cent thereafter—in other words from Rs. 2,000 crores in 1973-74 to Rs. 2,890 crores in 1978-79, Rs. 4,170 crores in 1983-84, and Rs. 4,770 crores in 1985-86.

The imports of metals, ores and scrap have been projected to decline from Rs. 380 crores in 1978-79 to Rs. 340 crores in 1983-84. While no further decline in the import of steel has been considered possible, the imports of non-ferrous metals have been estimated to go up substantially.

The imports of machinery transport equipment have been projected to go up modestly from Rs. 964 crores in 1978-79 to Rs. 1,010 crores in 1983-84 and Rs. 1,035 in 1985-86.

The total imports of crude petroleum products and lubricants have been projected to rise from Rs. 881 crores in 1978-79 to Rs. 1,240 crores in 1983-84 and Rs. 1,500 crores in 1985-86.

The imports of fertilizers and fertilizer raw materials has been projected to grow from Rs. 270 crores in 1978-79 to Rs. 330 crores in 1983-84, and Rs. 380 crores in 1985-86.

Among the other imports the most important items are semiprecious stones and raw cashew nuts, which have to be imported to feed our exports of finished precious stones and cashew kernels.

Savings and Investments—The rate of capital formation has been projected to grow from estimated 13.7 per cent of GNP to 16.3 per cent in 1978-79, 18.7 per cent in 1983-84 and 19.7 per cent in 1985-86.

The rate of savings has been projected to grow from estimated 12.2 per cent of GNP in 1973-74 to 15.7 per cent in 1978-79, 19 per cent in 1983-84 and 20 per cent in 1985-86.

The savings strategy for the perspective period relies heavily on public savings. Of the

projected improvement of 4.8 percentage points in the overall rate of savings, the contribution of public savings has been put at 5.4 per centage points, the rise being from estimated 2.8 per cent of GNP in 1973-74 to 8.2 per cent in 1985-86.

Private saving accounts for the greater part of total domestic savings which has been estimated at the end of the perspective period to account for 11.8 per centage points as against 8.2 percentage points by the public sector.

Development Outlay

The Plan provides for a total outlay of Rs. 53,411 crores. Of this Rs. 37,250 crores in respect of the public sector and Rs. 16,161 crores for the private sector.

Public Sector

As against the public sector outlay of Rs. 16,774 crores in the Fourth Plan, the Fifth Plan envisages an amount of Rs. 37,250 crores.

The sector-wise break-up of this outlay is as follows :—

Public Sector Investment

Sl. No.	Head of Development	Fifth Plan Outlay	(Rs crores) Percentage of total
1.	Agriculture	4730	20.1
2.	Irrigation	2681	—
3.	Power	6190	16.9
4.	Mining & Manufacturing	8939	24.0
5.	Construction	25	0.1
6.	Transport & Communication	7115	19.2
7.	Trade & Storage	205	0.6
8.	Housing and Real Estate	600	1.6
9.	Banking & Insurance	90	0.2
10.	Public Admn. & Defence	98	0.5
11.	Other Services	5790	15.5
	(i) Education	1726	4.6
	(ii) Scientific Research	419	1.1
	(iii) Health	796	2.1
	(iv) Family Planning	516	1.4
	(v) Nutrition	400	1.1
	(vi) Urban Development	543	1.5
	(vii) Water Supply	1022	2.8
	(viii) Social Welfare	229	0.6
	(ix) Welfare of Backward Classes	226	0.6
	(x) Labour Welfare	57	0.1
	(xi) Miscellaneous	275	0.7
12.	Hill and Tribal Areas	500	1.3
Total		37250*	100.0

*The sectoral outlays total up to Rs. 37,382 crores. A reduction of Rs. 132 crores would have to be effected to keep the total at Rs. 37,250 crores or alternatively additional resources to this extent to be found.

Public Sector

As against the private sector outlay of Rs. 8,980 crores contemplated in the Fourth Plan, the Fifth Plan envisages an amount of Rs. 16,161 crores. The sector-wise break-up of this outlay is given below.

The main sector of private cooperative investment will be Mining and Manufacturing, Housing, Agriculture and Transport.

The private and cooperative sectors will play a predominant role in village and small scale industries, with an investment of Rs. 1,050 crores against Rs. 610 crores in the public sector. This will lead to the creation of substantial employment opportunities, besides giving a fillip to the production of articles of mass consumption.

Public Sector Investment

Sl. No.	Head of Development	Investment	(Rs. crores) Percentage of total
1.	Agriculture	2950	18.3
2.	Irrigation	—	—
3.	Power	100	0.6
4.	Mining & Manufacturing	6250	38.6
5.	Construction	75	0.5
6.	Transport & Communication	1870	0.5
7.	Trade & Storage	1150	7.1
8.	Housing and Sites	3636	22.5
9.	Banking & Insurance	10	0.1
10.	Public Admn. & Defence	—	—
11.	Other Services	120	0.7
	(a) Education	100	0.6
	(b) Scientific Research	—	—
	(c) Health	20	0.1
Total		16161	100.0

SIXTH PLAN

The following is the official summary of the framework of the Sixth Five-Year plan.

The framework of the Sixth Five-Year Plan 1980-85, endorsed by the National Development Council, on August 31, proposes an outlay of Rs. 90,000 crores in the public sector. To finance a Plan of this magnitude, without generating inflation in the economy, it would be necessary to undertake an additional resources mobilisation of Rs. 19,000 crores, the share of the Centre being Rs. 13,000 crores and that of the State Rs. 6,000.

Apart from the need to mobilise Rs. 7,500 crores by way of additional taxation during the Sixth Plan, it would be necessary, to reduce the budgetary subsidies and secure financial returns from public enterprise, both at the Centre and in the States.

Objectives :

Removal of poverty and significant expansion of employment opportunities will be the major thrust of all Plan programmes of the Sixth Plan. The principal objectives of the Sixth Plan, as defined in the document are : a significant step-up in the rate of growth of economy, the promotion of efficiency in the use of resources and improved productivity ; strengthening the impulses of modernisation for the achievement of economic and technological self-reliance, a progressive reduction in the incidence of poverty and unemployment.

Other objective enlisted are : a speedy development of indigenous source of energy, with proper emphasis on conservation and efficiency in energy use ; improving the quality of life of the people in general with special reference to the economically and socially handicapped population, through a minimum needs programme with coverage so designed as to ensure that all parts of the country attain within a prescribed period nationally accepted standards ; strengthening the redistributive bias of public policies and services in favour of the poor contributing to a reduction in inequalities of income and wealth a progressive reduction in

regional inequalities in the pace of development and in the diffusion of technological benefits, promoting policies for controlling the growth of population through voluntary acceptance of the small family norm; bringing about harmony between the short and the long term goals of development by promoting the protection and improvement of ecological and environmental assets; and promoting the active involvement of all sections of the people in the process of development through appropriate education, communication and institutional strategies.

Removal of poverty

An increase in the productive potential of the economy is an essential condition for finding effective solution to the problems of poverty. However, due to constraints which limit the scope for higher growth in the medium term, more direct means of reducing the incidence of poverty in the stage of transition would have to be employed. The hard core of poverty is found in rural areas and the poor sections belonging to the families landless labour, small and marginal farmers, rural artisans, scheduled castes, scheduled tribes and socially and economically backward classes.

The household will remain the basic unit for poverty eradication in target group oriented programmes. Since families differ in such vital respects as dependency ratios, assets holding, skills and even the ability to perform manual labour on public works, each household below the poverty line will have to be assisted through an appropriate package of technology, service and assets transfer programmes. Strict enforcement of minimum wages legislation for wage earners is also needed.

For removal of poverty and promoting opportunities for gainful employment the ongoing rural development programmes will be integrated functionally so that maximum returns can be obtained from the available Government and institutional financial resources. The programmes of promotion of employment will be aimed at specific target groups.

In case of small and marginal farmers and those engaged in fishery, the on-going small Farmers Programme, National Dairy Project, Dryland Farmers programme, and inland and forestry and agricultural programmes will be expanded and strengthened. Also, a National Rural Employment Programme will be established in which development projects and group oriented employment generation will be closely intertwined. District level coordination arrangements are proposed for promotion of employment among the educated unemployed.

Growth Rates

The Sixth Five-Year Plan will aim at an average annual growth rate 5.3 per cent in national income. A growth rate of minimum of about 10 percent in exports will be aimed at.

In the agriculture sector from the broad inter-sectoral linkages observed in the past, a rate of growth of agricultural production of around four per cent will need to be aimed at. The agricultural plan should be so developed that productivity of all major farming systems are improved both in irrigated and rainfed areas.

Special attention should be paid to increasing the production of pulses and oilseeds. Horticulture should receive higher priority. The pattern of agricultural growth should be such that an export orientation can be given to agriculture after ensuring that the basic needs of our population for various food items are fully met.

During the Sixth plan, every effort will have to be made to mobilise resources for expanding the area under irrigation and to initiate action for future development of water resources so as to bring about 125 million hectares under irrigation by the beginning of the 21st century. For this purpose it is proposed to develop a National Water Plan, under which efforts should be to bring 15 million hectares under irrigation during 1980-85 consisting of 8 million hectares from surface water sources and 7 million hectares underground water sources. Also the total surface water resources of the country have been assessed at about 178 million hectare-metres, but only about 31 million hectare-meters is being utilised, the rest flowing into the sea. Hence a beginning will be made in preparing plans for harnessing some of the water which now goes

to the sea for irrigating drought-prone and rain-shadow regions through inter-basin transfer of water, to begin with, in the peninsular river system.

Estimate of Financial Resources for the Sixth Plan 1980-85 Public Sector

(Rs Crores at 1979-80 Prices)

Sl. No	Items	Amount
1.	Balance from Current Revenue at 1979-80 rates of taxes	13602
2.	Contribution of Public Enterprises	11007
3.	Market Borrowing	18500
4.	Small Savings	6837
5.	Provident Funds	3564
6.	Term Loans from Financial Institutions (Net)	3003
7.	Miscellaneous Capital Receipts	3072
8.	External Assistance and borrowing from other sources (Net)	7765
9.	Additional resources mobilisation	19150
10.	Uncovered gap/deficit Financing	4000
11.	Aggregate resources	90000

Attention to rainfed farming will be one of the major thrusts of the Sixth Plan improved technology which can help to elevate and stabilise production in most rainfed areas except during years of drought of unusual severity becoming available. It is hence proposed to initiate appropriate programmes in dry and land farming

Industrial production in the country is envisaged to grow at an average annual rate of 8.9 per cent during the Plan period. Significant amounts of outlay will have to be provided for expansion of capacity in steel, non-ferrous metals, capital goods, fertilizers and petrochemicals.

In view of the severity of the energy constriction, substantial investments will be needed in the sector of coal, electricity generation and distribution and petroleum exploration and development. Higher outlays will be needed for railways, roads and ports. There is also an urgent to revamp and strengthen the management structure in the critical sector of coal, power, transport and other enterprises.

Price Policy and Public Distribution

Given effective monetary and fiscal policies, it should be possible to ensure reasonable price stability. Both fiscal and discourage conspicuous consumption. Farmers will have to be provided with remunerative prices, paying due attention to their cost structure. In order to minimise the impact of weather- fluctuations on price foodgrains, a buffer stock of about 15 million tonnes is considered necessary.

The public distribution system which plays a major role in ensuring supply of essential commodities such as foodgrains, sugar, vegetable oils and kerosene at reasonable prices, will be so developed that it would hereafter remain a stable and permanent feature of the strategy to control prices and to achieve equitable distribution.

Social Services

The main objective of education development will be to ensure essential minimum education to all children upto the age of 14 years in the next 10 years. Among other objectives are: to provide for all citizens, literacy, numeracy, basic understanding of the surrounding world and functional skills of relevance to daily life and to local environment; to provide relevant technical skills through the agency of Krishi, Udyog and Van Vigyan Kendras, and other centres where learning should be by doing, to improve secondary and higher education courses so as to increase to component of learning from real life situations through participation in socially relevant activities; to consolidate existing facilities for higher education and programmes with minimum additional inputs for qualify improvement and physical infrastructure and to coordinate higher

education with opportunities for employment specially self-employment and development goals to sensitize academic communities to the problems of poverty, illiteracy and environment degradation through organised participation in poverty reduction and environment improvement programmes; to facilitate development mobilisation organisation and utilisation of the youth to involve and participate in the process of national development; and to support the growth of arts, music, poetry, dance, drama including folk art as instruments of culture, education and national integration.

Science and Technology

Science and technology, should be promoted and made more relevant to the local needs by the organisation of State level science and technological councils and by involving scientific academics and professional societies in preparing reports on themes of local national relevance. Associations of young scientists should be organised for involving youth more actively in promoting the culture of science.

Estimate of Gross Domestic Savings & Investment and Aggregate Resources 1980-85

(Rs crores at 1979-80 price)

Sl. No.	Items	Amount.
1.	Public Savings ...	30259
	(i) Budgetary Resources ...	11252
	(ii) Public Enterprise ...	19007
2.	Savings of private Non-Financial Corporate Sector including Cooperatives ...	9495
3.	Saving of Financial Institution ...	3618.
	(i) Public Sector. ...	2525
	(ii) Private Sector ...	1093.
4.	Saving of Household Sector ...	106275
	(i) Financial Assets ...	44085
	(ii) Physical Assets ...	62190
5.	Aggregate Gross Domestic Saving ...	149647.
6.	Net Inflow from Abroad ...	6698.
7.	Total Saving available for Gross Investment ...	156345
8.	Provision for Current Development Outlay in the Public Sector ...	13500
9.	Aggregate Resources ...	169845.

Participation

There is need for strengthening the planning machinery at all levels to ensure successful implementation of the Sixth Plan. Arrangements for the preparation and implementation of projects, both at the Centre and State levels, will be revamped. It will be necessary to provide for regular monitoring the progress of the projects and programmes. There has to be much greater awareness of the social costs of delay and rules and procedures which come in the way of timely completion of Plan schemes and projects must be done away with.

The Sixth Plan assigns vast responsibilities to the development administration at the grassroots. This will require augmentation of the capabilities of development administration both at the district and block levels.

Family, planning for rapid economic and social development in a democratic policy can succeed only if there is conscious and willing acceptance on the common people of various structural changes in inevitably associated with the fast changing economy. In the final analysis the planning is for the human beings and it involves essentially investment in man, people's participation and their sense of purpose are crucial to effective implementation of the Plan. There is therefore, needed for review and strengthening of arrangement for people's involvement in the planning process.

Special emphasis will be placed on involving the youth of the nation as a pivot of public participation. It suggests strengthening of rural youth clubs and their linkage to similar clubs or centres in the urban areas through a proper organisation at all levels.

The major aim of the Sixth Plan should be to optimise the benefits from our vast human resources and to improve the quality of life of our people and more specially those suffering today from different forms of economic, social and ecological handicaps. The major components of the human programme. The policies for controlling the growth of population should receive a high priority.

The preface to Plan framework by the Minister of Planning states that while formulating the programme thrusts, the 20-Point Programme and the pledges given to the people have been among the guiding factors.

The National development council, which concluded its two-days session in New Delhi on August 31, 1980 in a resolution passed unanimously said that "the Planning Commission may now proceed to prepare the final draft of the Sixth Plan on the basis of the objectives, the programme thrusts and the targets for growth and additional resources: mobilisation as outlined in the Draft Framework."

SEVENTH FIVE YEAR PLAN—AN APPROACH

Growth rate, plan size and resources

The fulfilment of the Seventh Plan objective require a growth rate of a little over 5 per cent. This growth rate should contain inflationary pressures and lead to import substitution in sectors like crude oil, foodgrains and edible oils besides generating employment and income for the poor.

The Plan can be based on the assumption of a 26 per cent savings rate which has already been achieved. Over the five years, aggregate investment at 1984-85 prices maybe of the order of Rs. 320,000 crores of which public investment would be about Rs. 150,000 crores. The public sector outlay in the Seventh Plan would be of the order of Rs. 180,000 crores at 1984-85.

BLANCE OF PAYMENTS—The Seventh Plan has to take into account the prospect of considerably diminished inflow of concessional financial assistance from abroad, sizeable debt service obligation, and a global environment where interest rates are expected to remain high with only limited possibility of any sharp acceleration in the volume of export growth.

Population

A rate of growth of population 1.8 per cent annum is being assumed for the Seventh Plan period and the estimated population in the terminal year of the Seventh Plan is 803 million.

Poverty, alleviation, employment and Social justice

The Sixth Plan envisaged the reduction of the percentage of people below the poverty line to less than 10 by 1994-95. This will continue to be the goal.

Social Services and Human Resources Development

One of the Primary function of the Seventh Plan must be the harnessing of the country's abundant human resources of improving their capabilities for development with equity. This is how the programmes for alleviation of poverty, reduction of economic and social inequality and improving productivity can be integrated with development.

Industry, Infrastructure and Capacity utilization

To meet the objectives of the Plan, industrial output will have to grow at about 7 per cent. The emphasis on agricultural machinery like pumpsets, power-tillers etc.

In the Seventh Plan, it will be necessary to ensure that lags in production of the key infrastructural of intermediate goods like steel, cement, coal, railway transport, communication, irrigation and fertilisers do not become mutual bottlenecks.

The important features of the Seventh Five Year Plan would be—

- (1) Decentralisation of planning and full public participation in development.
- (2) The maximum possible generation of productive employment.
- (3) Alluviation of poverty and reduction in inter-class, inter-regional and rural-urban disparities.

- (4) Attainment of self-sufficiency in food, at higher of consumption.
- (5) A higher level of social consumption, particularly in education, health, nutrition, sanitation and housing.
- (6) An enhancement in the degree of self-reliance through export promotion and import substitution.
- (7) The acceleration of the voluntary adoption of a small family norm and a positive role for women in economic and social activity.
- (8) A reduction in infrastructural bottlenecks and shortages and improved capacity utilisation and productivity throughout the economy.
- (9) Efficiency modernisation and competition in industry.
- (10) Conservation of energy and promotion of non-conventional energy sources.
- (11) The integration of science and technology into the mainstream of development planning.
- (12) Ecological and environmental conservation.

LANGUAGE

The Language families :

The language of the world fall into 10 broader groups e.g. Indo-European, Dravidian, Sino-Tibetan, Semito Hemitic, African Negro, American-Indian, Caucassian, Malayo-Polynesian, Ural Altaic, Miscellaneous.

(1) Indo-European includes Germanic (English, German, Dutch, Swedish, Norwegian, Danish, Icelandic), Romance (French, Spanish, Portuguese, Italian, Romanian), Indo Iranian (Iranian and Sanskrit), Baltic-Slavic (Russian, Polish, Ukrainian, Czech, Slovak, Serbo-Croatian, Bulgarian)

(2) Dravidian includes Tamil, Telugu, Kannada, Malayalam.

(3) Sino-Tibetan includes Tibetan, Burmese, Japanese, Thai, Korean and Chinese

(4) Senuto-Hemitic includes Arabic, Siban, Berber, Hebrew, Galla, Amharic (Ethiopea), Somali.

(5) African Negro includes Sudanese, Guinean, Aanti, Hausa (Nigeria) Sswaluli. Major African languages.

(6) American Indian includes Red Indian, Aleuts and Eskimos.

(7) Caucasion includes Georgian and Circeroisan.

(8) Malaya—Polynesian includes New Zealand native Maori, Malagasy, Indonesian and Malaya.

(9) Ural—Altaic includes Trukish, Hungarian, Mongal, Finnish and Manchu.

(10) Miscellaneous—In these groups, we find lesser families like Austric, Basque and Ainu-Austric includes Munda of India, New Guinean and Tasmanian, Australian aboriginal languages believe. Ainu spoken by the people of Hokkondo.

1200 languages are spoken by American-Indian tribes out of 2796 mentioned in the record. African Negroes : speak in 700 different languages: New Guinea and Pacific island natives speak in 500 languages of their own. About 200 minor languages of Asia of quite unknown origin 15% represent major language and the rest 85% represent overwhelming major languages.

VARIETY OF INDIAN LANGUAGES—According to Sir George Grierson, India has 179 languages and 544 dialects. The number of languages or dialects, according to 1961 Census, was 872.

LANGUAGES IN THE INDIAN CONSTITUTION—The Indian Constitution in its English Schedule recognises 15 languages namely Assamese, Bengali, Gujarati, Hindi, Kannarese, Kashmiri, Malayalam, Marathi, Oriya, Punjabi, Snaskrit, Sindhi, Tamil, Telugu and Urdu.

OFFICIAL LANGUAGE—Article 343 of the Constitution provides that, the official language of the Union shall be Hindi in the Devangari script and form of numerals for official shall be the interantional form of India numerals.

From 26th January, 1965, Hindi has been accepted as the official language of the Union, i.e. the official correspondence with the Union and the Hindi speaking States be carried out in Hindi.

Official Language (Amendment) Bill—was approved by the Lok Sabha on December 16, 1967. The Bill among other provisions made Hindi or English, compulsory for all recruitment to Central services ; correspondence in English was obligatory only between the Union and a non-Hindi speaking State ; Hindi States corresponding with non-Hindi States could send that communication in Hindi States corresponding with non-Hindi States could send that communication in Hindi supplying along with them English translations ; in either English or Hindi, as the case may be would have to accompany the original communications between Ministers, Departments or Officers, at the Centre, between a Central Ministry or department or office and any corporation or company owned or controlled by it and between a central corporation or company and its officers.

ORIGIN AND GROWTH OF INDIAN LANGUAGE—The four great linguistic families in India are : (1) Indo-Aryan, (2) Dravidians, (3) Austric and (4) Sino-Tibetan Aryan.

Negroid family is supposed to be called as the earliest inhabitants of India. During the course of time these languages lost its life in their mainland, but retained by the Andamanese, which is spoken by 1000 people.

Indo-Aryan Languages are descended from the ancient speech of the Indo-European invaders who came to India from their original homeland in the Eurasian plains. The oldest form of Aryan speech is to be found in the Vedas believed to have been completed in the 10th century B.C. Vedic-Sanskrit gradually developed into what are known as middle Indo-Aryan dialects. Between 600 B.C. and 100 A.D.—the period of Aryan expansion, they gradually spread over northern India. The early literature of Buddhist is enshrined in Pali, one of the earlier Indo-Aryan dialects. 74% of the Indian population speak in Indo-Aryan languages. Important major language under the group are : Western Punjabi, Sindhi, Eastern Punjabi, Hindi (Hindustani) Eastern Hindi, Western Hindi, Urdu, Bihari, Rajasthani, Gujarati, Marathi, Assamese, Bengali, Oriya, Pahari, Kashmiri and Sanskrit.

Dravidian Language have their home in peninsular India and included 12 district language—Tamil, Telugu, Kannarese, Malayalam, Tudu, Kodagu, Toda, Kota, Gond, Khond, Oraon and Rajmahal. These languages are spoken in the following regions or districts of India—south-eastern, north-eastern and south-western, the Malabar coast, Coorg (adjoining the Malabar coast) the Niligiri Hills, Central India, north-west Orissa, and the Rajmahal Hills of West Bengal, Tamil, Telugu, Malayalam and Kannada are the most important among them. Tamil, the oldest member of the group, preserves a good deal of the general character and vocabulary. Tamil is also spoken in the northern part of Sri Lanka. Malayalam is closely related to Tamil and has borrowed considerably from Sanskrit.

Primitive tribes speak Austric Languages, represented in the hills and jungles of central and north eastern India. These languages are said to be related to those of South-East India. They are believed to have come to India with the invaders from the north-east long before the Indo-Aryan invasion. The following are the Austric languages :—

- (a) Kol or Munda group which includes, Santhali, Munhari, Ho, etc.
- (b) Khasi in Assam and (c) Nicobarese in Nicobar Islands.

Sino-Tibetan Languages are used by small tribes along the southern slopes of the Himalayas, in North Bengal and Assam. These languages mostly belong to the Mongolian race, Newar of Nepal and Meithei of Manipur.

Of the major languages of the world about 50 million people speak in 13 languages. These are English, Hindustani, Russian, Spanish, German, Japanese, Arabic, Bengali, Portuguese, Malay (Indonesia), French and Italian. English speaking area covers one fifth of the world's total population. It is spoken by 200 million of the Western hemisphere including 60 million of Europe, 2.5 million in Asia, 5 million in Africa and 13 million in Oceania.

MODERN INDIAN LANGUAGES—A short description of the important modern Indian languages is given below :

Hindi with its various branches is the fourth most important languages of the world after Chinese, English and Russian. This language is the spoken languages in Bihar, U.P., in the major portion of Madhya Pradesh, Rajasthan, Delhi, Himachal Pradesh and Harayana.

Urdu—So far as Urdu and Hindi are concerned they are basically the same language in points of structure, grammar and syntax and there is a considerable fund of vocabulary common to both. Three factors, however, contribute to their separation. Firstly, Hindi is written in Devnagari script and Urdu and Persian Arabic script. Secondly, owing to various historical and sociological associations Hindi has to be associated with the Hindus and Urdu with the Muslims. Thirdly Urdu writers tend to draw upon Arabic and Persian for expanding their vocabulary and Hindi writers upon Sanskrit. Urdu originated from the dialect spoken round about Delhi. In fact, it was at first the court or the camp language of the Mughals. In the State of Jammu and Kashmir it is recognised as one of the State languages along with Kashmiri. In North India, more specially in Delhi, Punjab, Uttar Pradesh and Bihar, the use of Urdu has been widespread, though it is spoken by a majority chiefly living in town.

Bengali is the language of about 98 million people and although less than half of this number is in West Bengal, there is identity of speech and culture which links up West Bengal in India with Bangladesh. It has eighth place amongst world's principal languages. The whole of the Bengali people inherit a common literature, which is one of the most significant facts in modern India. It is also spoken by majority of the Cachar district of Assam and of Tripura. It is the most progressive languages of India.

Telgu is one of the important members of the Dravidian group of languages and ranks second among the languages of India, next to Hindi only. This language seems to have branched out from the parent Dravidian tongue to the middle of the first millennium B.C.

Bhojpuri is claimed to be the spoken language of about 4 crores of people living within an area of 250 lakh miles. The districts of Saran, Champaran, Sahabad, Palamau and Ranchi (partly) in Bihar, Ballia, Ghazipur, Banaras, Mirzapur, Gorakhpur, Azamgarh and Deoria in U.P. and Jaspur and Surguja in Madhya Pradesh comprise Bhojpuri speaking area.

Marathi is spoken in western and central India. It covers parts of two States in India—Maharashtra and Madhya Pradesh. It is also spoken in Goa, Daman and Diu and in some parts of Hyderabad.

Gujarati is spoken in Gujarat, in northern maritime portion of Maharashtra and also adjoining places.

Pahari is a general name applied to Indo-Aryan languages spoken in the lower ranges of Himalayas, from Nepal to the east of Calcutta.

Konkani is largely spoken in the Belgaum district and in the adjoining area of Karnataka. It has no script of its own, Kannada, Devanagari or Roman script is now employed.

Of the 1652 mother tongues in India listed in the Census, 33 were spoken by the people numbering over a lakh. The table stated below shows the name of the respective mother tongue and the number of speakers.

Hindu	1,53,729,062	Santali	3,693,558
Telugu	44,707,697	Kashmiri	2,421,760
Bengali	44,521,533	Rajasthani	2,093,557
Marathi	41,723,893	Goudi	1,548,070
Tamil	37,592,794	Konkoni	1,522,684
Urdu	28,600,428	Dogri	1,298,885
Gujarati	25,656,274	Gorkhali & Nepali	1,286,824
Malayalam	21,917,430	Garhwali	1,227,151
Kannada	21,595,019	Pahari	1,269,651
Oriya	19,726,745	Bhuli	1,250,312
Bhojpuri	14,340,564	Oraon	1,240,395
Punjabi	13,900,202	Kumaoni	1,234,939
Assamese	8,958,977	Sindhi	1,204,678
Chhatisgarhi	6,693,445	Laman	1,203,338
Magadhi	6,638,495	Tulu	1,156,950
Maithili	6,121,922	Bagri	1,055,607
Marwari	4,714,094		

Major Languages.

<i>Language</i>	<i>No. of speakers (in million)</i>	<i>Principal Areas</i>
Chinese	700	China
English	300	UK, USA, Canada, Ireland, Australia, New Zealand
Russian	200	USSR
Spanish	165	Spain, Latin America
Hindi	153	North India
Japanese	100	Japan
German	100	Germany, Austria Switzerland
Bengali	95	India, Bangladesh
Portuguese	90	Portugal, Brazil
Arabic	90	Middle East
French	75	France, Belgium Canada, Switzerland
Italian	55	Italy
Indonesian	50	Indonesia
Javanese	45	Java (Indonesia)
Telugu	44	Andhra Pradesh (India)
Tamil	42	Tamil Nadu (India)
Marathi	41	Sri Lanka
Urdu	40	Maharashtra (India)
Panjabi	40	India, Pakistan
Korean	40	India, Pakistan
Ukrainian	37	Korea (North & South)
Vietnamese	35	Ukraine (USSR)
Polish	32	Vietnam
Turkish	30	Poland
Gujarati	25	Turkey
Thai	25	Gujarat (India)
Malayalam	22	Thailand
Kannada	21	Kerala (India)
Farsi (Persian)	20	Karnataka (India)
Burmese	20	Iran
Oriya	19	Burma
Romanian	18	Orissa (India)
Serbo-Croatian	15	Romania
Hausa	15	Yugoslavia
Pushtu	14	Nigeria, Niger
Bhojpuri	14	Afganistan
Sudanese	13	Pakistan
Hungarian	12	Eastern India
Dutch	12	Sudan
Swahili	12	Hungary
Visayan	12	The Netherlands
Nepali	10	East Africa
Greek	10	Philippine
Czech	9	Nepal
		Greece
		Czechoslovakia

<i>Language</i>	<i>No. of speakers (in million)</i>	<i>Principal Areas</i>
Assamese	8	Assam (India)
Swedish	8	Sweden
Bulgarian	8	Bulgaria
Belorussian	8	Belorussia (USSR)
Sinhalese	8	Sri Lanka
Amharic	8	Ethiopia
Yoruba	8	Nigeria
Madurese	8	Madura (Indonesia)
Ibo	8	Nigeria
Azerbaijani	7	Azerbaijan (USSR)
Sindhi	7	Pakistan, India
Catalan	6	Spain
Chattisgarhi	6	Madhya Pradesh (India)
Magadhi	6	Bihar do
Maithili	6	" do
Angika	6	" do
Fuliani	6	West Africa
Malagasy	6	Madagascar
Uzbek	6	Uzbekistan (USSR)
Malay	6	Malaysia, Singapore
Chuang	6	China
Tagalog	6	Philippines
Quechu	6	Peru, Bolivia
Danish	5	Denmark
Flemish	5	Belgium
Provençal	5	France
Tartar	5	Tartar (USSR)
Kurdish	5	Turkey, Iraq, Iran
Khmer	5	Kampuchea
Ruanda	5	Ruanda, Congo
Galla	5	Ethiopia
Norwegian	4	Norway
Marwari	4	Rajasthan (India)
Finnish	4	Finland
Yiddish	4	USA, Israel
Slovak	4	Czechoslovakia
Armenian	4	Armenia (USSR)
Kazakh	4	Kazakistan (USSR)
Tibetan	4	Tibet
Uighur	4	Sinkiang (China)
Twi	4	Ghana
Malinke	4	West Africa
Sotho	4	Lesotho (Africa)
Zulu	4	South Africa
Zhosa	4	do
Lithuanian	3	Lithuania (USSR)
Georgian	3	Georgia (USSR)
Santali	3	Eastern India
Yi (Lolo)	3	China
Minangkabau	3	Sumatra (Indonesia)
Liocano	3	Luzon (Philippines)

Counsel and the appointment of Law Officers, e.g., Attorney-General, Solicitor-General and Additional Solicitor-General Government Solicitors at Calcutta and Bombay and Government Pleaders for the conduct of litigation on behalf of the Central Government. This Section co-ordinates and consolidates the issue of certain statutory orders.

(4) **Central Agency Section**—looks after their conduct of civil and criminal cases before the Supreme court, in which the Central Government and some State Governments except those of Andhra Pradesh, Kerala, Madhya Pradesh, Tamil Nadu, Uttar Pradesh and West Bengal are participating in the scheme.

(5) **Law Commission**—has been entrusted with the work of examining the Central Acts of general application and importance and of recommending the lines on which they should be amended, revised, consolidated or other wise, brought up-to-date. The Commission was initially set up in 1955 and since then it has been reconstituted for three years at a time. The Commission has been reconstituted for a further period of three years from 14 December, 1981 to 13 December, 1984 with revised terms of reference. It consists of a chairman and three full time members besides a member in the grade of Jt. Secretary.

(6) **Income Tax Appellate Tribunal**—has 38 Benches: five at Calcutta, five at Bombay, five at Delhi, four at Madras, three at Ahmedabad, two each at Allahabad and Hyderabad and one each at Patna, Amritsar, Chandigarh, Bangalore, Indore, Cuttack, Gawahati, Jabalpur, Jaipur, Pune and Nagpur. It hears appeals against decisions of Appellate Assistant Commissioners and exercises jurisdiction throughout the whole of India. It is the final authority on questions of fact. It is a quasi-judicial autonomous institution with President at its head. The Head quarters of the Tribunal is located at Bombay.

(7) **Foreign Exchange Regulation Appellate Boards**—formed to hear appeals against the orders passed under the Foreign Exchange Regulation Act, 1971 by the Director of Enforcement and other adjudicating officers. It can also revise their order. The decision of the Appellate Board is final on all questions of fact but an appeal lies to the High Court on question of law arising out of any decision or order of the Board. The Board consists of a Chairman and other members not exceeding four in number.

(8) **Private Members Bills**—The Department is in charge of Private Member Bill relating to amendment of the Constitution.

Indian Law Institute—is a premier organisation in the country which is engaged in promoting and conducting legal research. It was founded in 1957.

Institute of Constitutional and Parliamentary Studies—was established in 1965 for promoting studies in the constitutional systems of various countries, the problems of working of the Indian Constitution, development in Constitutional Law, legislative drafting etc.

Legal aid for poor—This has recently won the attention of the Government. Recently a committee under Justice P. N. Bhagwati has been appointed to go into the problem.

II LEGISLATIVE DEPARTMENT

(A) **Legislative I Section**—is in charge of the drafting of all Bills. Ordinances and Regulations which are enacted or promulgated by the Centre. In addition this Section is concerned with the drafting of model Bills for States whenever so required. The drafting and enactment of Bills as President's Act are also the functions of this Section. The scrutiny of all subordinate legislation—statutory rules, orders, notification, bye-laws etc., from the legal constitutional and drafting points of view is also done in this Section.

(B) **Legislative II and Parliament Section**—deals with the work relating to Legislative proposals (including Private Members Bills) on subject in the concurrent field, which have been allocated to this Ministry. This Section also deals with elections to Parliament to the Legislatures of States, to offices of the President and Vice-President, Election Law and Rules made thereunder.

(C) **Publication Section**—The main function of the Publication is to bring out from time to time modified editions of Central Acts and to issue other important publications like the 'Constitution of India', 'Manual of Election Law', etc.

(D) **Translation Branch**—The functions of this Branch are to prepare Hindi versions of Central Acts and Ordinances and Rules, Orders, Regulations and Bye-laws issued under any Central Act or the Constitution and publish them in diglot (Hindi-English) form; translate into Hindi all the Statutory Rules, Orders, Ordinances, Regulations, etc.; assist in the preparation by Official Language (Legislative) Commission of the authoritative Hindi texts of Central Laws, in the compilation of Standard Legal Lexicon and in the exploratory work with regard to the revolution of standard legal drafting in Hindi; prepare Hindi versions of Recruitment Rules, Agreements Bonds etc.

(E) **Correction Section**—The Section is responsible for maintaining up-to-date larger number of sets of Central and States Acts, Ordinances, Regulations and other important publications.

(F) **Printing Section**—This Section is incharge of editing of manuscripts of all the Central Bills, Ordinance, Regulations, President's Bills and other publications like Annual Act, etc.

(G) **Official Languages Section**—This Section deals with the work relating to the Official Language in the field of Law, policy and programme including the work of the Official Language (Legislative) Commission, and also provided necessary secretarial assistance to the Hindi Advisory Committee set up in this Ministry to advise the Central Government on matters relating to the translation of Central Acts and Statutory Rules in Hindi, evolution of a common legal terminology, the production of standard law, books in Hindi for imparting legal education in Hindi in Law Colleges and Universities in Hindi speaking States, the publication of standard Law Journals and Reports in Hindi and matters ancillary and incidental thereto. This Section also deals with the work connected with the implementation of the recommendations, so far as the Ministry of Law is concerned, made by the Central Hindi Committee set up by the Ministry of Home Affairs under the chairmanship of the Prime Minister for bringing about co-ordination in the work and programme relating to the development and propagation of Hindi being executed by the various Ministries of the Government of India.

(H) **General Statutory Rules and Orders Section**—This Section deals with the work in connection with the revised edition to the General Statutory Rules and Orders, which is designed to be a companion publication to the Indian Code and will contain all extent notifications, rules and orders issued under the Central Acts of all-India applications under classified headings as in the Indian Code.

(I) **Waqf Section**—Various problems relating to waqf receive the attentions of Union Law Ministry.

(J) **Journal Section**—This section deals with the work relating to the publication, distribution and sale of the two Journals in Hindi

Official Language (Legislative) Commission—is a standing Commission constituted pursuant of the Order of the President, dated, the 27th April, 1960, issued under Clause (6) of Article 344 of the Commission. The Commission has been set up the proper planning and implementation of the entire work relating to the preparation of a standard legal terminology for use as possible, in all the Indian languages, and the preparation of authoritative texts in Hindi of Central Statutes, Rules and Orders etc. made thereunder. The Commission is also required to make arrangements for the translation of Central Laws into regional languages and Hindi translation of State Laws which are not in Hindi.

The Commission consists of a chairman, 5 members for Hindi and one member each for Assamese, Bengali, Gujarati, Kannada, Malayalam, Marathi, Oriya, Punjabi, Tamil, Telugu and Urdu.

Among the important activities of the Legislative Dept, mention may be made of its handling of the Bills, for the Amendment of the Constitution. They are as follows :

(1) **Fortieth Amendment Act**—It provides for the vesting in the Union of all lands, minerals and other things of value underlying the ocean within the territorial waters or the continental shelf or the exclusive economic zone of India.

(2) **Forty-first Amendment Act**—It raises the age of retirement of the members of State Public Service Commission and Joint Public Service Commission to 62 years.

(3) **Forty-Second Amendment Act**—In accordance with recommendation of the Swaran Singh Committee it introduced fundamental changes in the Constitution, allegedly to achieve the socio-economic goal that the founding fathers of our Constitution, had in their mind.

(4) **Fifth Schedule to the Constitution** has been amended to empower the President to increase the area of any scheduled area in the State.

(5) **Ninth Schedule** was amended with a view to protecting the State legislating on land reforms and private forests from any challenge as to their Constitutional validity.

III DEPARTMENT OF JUSTICE

The Department of Justice has come into existence with effect from the 3rd May, 1971, and the following items of work have been allotted to that Department—

(i) Appointment, resignation and removal of the Chief Justice of India and Judges of the Supreme Court; their salaries, rights in respect of leave of absence (including leave allowance), pensions and travelling allowances, (ii) Appointment, resignation and removal, etc., of Chief Justices and Judges of High Courts in States; their salaries, rights in respect of leave of absence (including leave allowances), pensions and travelling allowances, (iii) Constitution and organisation (excluding jurisdiction and powers) of the Supreme Court (but including contempt of such Court) and the fees taken, (iv) Constitution and organisation of the High Courts and the Courts of Judicial commissioners except provisions as to officers and servants of these Courts, (v) Administration of the Notaries Act, 1952, (vi) Administration of justice and constitution and organisations of Courts in the Union Territories and fees taken in such courts, (vii) Court fees and Stamp duties in the Union Territories.

SUPREME COURT OF INDIA

The Supreme Court of India is the highest judicial body of India, standing at the apex of a single unified system for the whole country. It is the de jure guardian and interpreter of the Indian Constitution and acts as the custodian of all the liberties of the citizens. It consists of a Chief Justice and not more than 17 other judges appointed by the President.

Under the Constitution, the President of India can appoint any member of the Bench or even "outsider" as Chief Justice.

The Judges are appointed by the President in consultation with the Chief Justice. Only a citizen of India who has been for at least five years a judge of a High Court or for 10 years an advocate of a High Court or a person who in the opinion of the President is a distinguished jurist is qualified to be appointed a judge.

A Judge of the Supreme Court cannot be removed from office except by an order of the President passed after an address by each House of Parliament, supported by a majority of the total membership of that House and by a majority of not less than two-thirds of the members present and voting.

The Judges hold office till the age of 65. The constitution debars retired Judges of the Supreme Court from practising in any court of law or before any other authority in India.

Provision has also been made for the appointment of Judge of High Court as an ad hoc Judge of the Supreme Court and for retired Judges of the Supreme Court to sit and act as Judges of that Court.

The Supreme Court of India has both original and appellate jurisdiction. Its original Jurisdiction extends to all disputes between the Union and one or more States or between two or more States inter se. In addition, it has an extensive original jurisdiction on regard to the enforcement of fundamental rights of the Constitution. It is empowered to issue directions or orders or writs including those in the nature of writs of habeas corpus, mandamus, prohibition, quo warrant and certiorari, whichever may be appropriate, to enforce these rights.

Appellate jurisdiction of the Supreme Court can be invoked by certificate of High Court concerned or by special leave granted by the Supreme Court, in respect of any judgement, decree or final order of the High Court in cases involving substantial questions of law as to the interpretation of the constitution. Appeals lie also to the Supreme Court in civil matters where the amount or value of the subject matter of the dispute is not less than Rs. 20,000 or where the judgement, decree or final order involve decrees respecting property of like amount, or where the High Court concerned certifies that the case is a fit one for appeal to the Supreme Court.

In criminal cases, the right of appeal to the Supreme Court has been provided for, "if the High Court (a) has on appeal reversed an order of acquittal of an accused person and sentenced him to death, (b) has withdrawn for trial before itself any case from any court subordinate to its authority and has in such trial convicted the accused person and sentenced him to death, or (c) certifies that the case is fit one for appeal to the Supreme Court." Parliament is authorised

to confer on the Supreme Court any further powers to hear and entertain appeals from any judgement final order or sentence in a criminal proceeding or a High Court in Indian territory.

The Supreme Court has a very wide appellate jurisdiction over all courts and tribunals in as much as it can grant leave to appeal from any judgement, decree, determination, sentence or order in any case or matter passed or made by any court or tribunal of India.

No less important is the advisory jurisdiction of the Supreme Court. The President may refer under Article 143 of the Constitution of the court for opinion on any question of law or fact or disputes to decide any dispute relating to the election of President or the Vice President.

If the chairman or any other member of the Public Service Commission is sought to be removed from his office on ground of misbehaviour, a reference must be made by the President to the Supreme court, which will report in favour of or against such removal after an inquiry.

It's, thus clear that the Supreme Court is not only the highest constitutional court, but is also an original and final court of appeal in all matters, civil and criminal. Under Article 141 of the Constitution the law declared by the Supreme Court is binding on all courts in the country.

All constitutional issue must be headed by a Bench of at least five judges. Other matters may be dealt with smaller Benches, but in practice a Bench comprises at least two judges.

HIGH COURTS IN INDIA

High Courts have the power to issue any person or authority including any Government within its jurisdiction, directions or order for writs for the enforcement of any of the rights conferred by Part III of the Constitution for any other purpose. High Courts have powers of superintendence over all courts and tribunals within jurisdiction.

They can call for returns from such court, make and issue general rules and prescribe forms to regulate their practices and proceedings and forms in which books, entries and accountants shall be kept.

Judiciary is independent of the executive and legislature.

LIST OF HIGH COURTS

	Year of Establi- shment	Territorial Jurisdiction	Seat of the Court
Allahabad	1866	Uttar Pradesh	Allahabad (Bench at Lucknow)
Andhra Pradesh	1954	Andhra Pradesh	Hyderabad
Bombay	1861	Maharashtra & Dadra and Nagar Haveli	Bombay (Benches at Nagpur and Panaji)
Calcutta	1861	West Bengal, Andaman & Nicobar Islands	Calcutta
Delhi	1966	Delhi	Delhi
Gawahati	1972	Assam, Manipur, Meghalaya, Nagaland, Tripura, Mizoram & Arunachal Pradesh	Gawahati (Temp- orary Benches at Imphal, Agartala & Kohima)
Gujarat	1960	Gujarat	Ahmedabad
Himachal Pradesh	1971	Himachal Pradesh	Simla
Jammu & Kashmir	1928	Jammu & Kashmir	Srinagar & Jammu
Karnataka	1884	Karnataka	Bangalore
Kerala	1956	Kerala & Lakshadweep	Ernakulam
Madhya Pradesh	1956	Madhya Pradesh	Jabalpur (Benches at Indore and Gwalior)
Madras	1861	Tamil Nadu & Pondi cherry	Madras
Orissa	1948	Orissa	Cuttack

Patna	1916	Bihar	Patna (Bench at Ranchi)
Punjab & Haryana	1947	Punjab, Haryana and Chandigarh	Chandigarh
Rajasthan	1949	Rajasthan	Jodhpur (Bench at Jaipur)
Sikkim	1975	Sikkim	Gangtok.

SUBORDINATE COURTS

Civil Justice—The structure and functions of the subordinate courts in the mofussil, with minor local variations, are more or less uniform throughout India. Each State is divided into a number of districts. Each district has a Judge. This is the principal Civil Court. Subordinate to him are civil judicial authorities of different grades. Besides hearing units, Civil courts exercise jurisdiction over several other matters, such as guardianship, marriage and divorce, testamentary and intestate representation and admiralty jurisdiction.

Criminal Justice—Code of Criminal Procedure regulates the administration of criminal justice and the constitution of Criminal Courts. The officer-presiding over the district courts in civil cases is the judge of the Sessions Division for criminal cases in that district. He deals only with more serious crimes and take cognizance of cases only when have been committed to him by a Magistrate after a preliminary enquiry.

The exercise of preventive jurisdiction in certain matters and the trial of crimes listed as not triable by a Session Court are entrusted to Magistrate of various classes under the general supervision and control of the District Magistrate. In respect of nearly all judicial acts, the magistracy including the District Magistrate is subject to control of the High Court. Some classes of cases involving minor crimes are tried by Honorary Magistrates and by benches of Magistrates.

Pendency in Courts—This has recently reached an acute stage. A Monitoring Cell has thus been set up in the Dept. of Justice to analyse the position with regard to institution, pendency and dependency of cases to District and High Courts.

LOCAL GOVERNMENT

Local self-governing institutions are in general divided into two classes—urban and rural. In big cities, we have corporations and in medium and small towns. Municipalities or Boards. The pattern of local government in rural areas had been changed and a three-tier structure of local governing bodies at the village, block and district level, known as Panchayati Raj, has been introduced in different States. Specific powers and functions in the field of development and local administration have been assigned to the Panchayati Raj institutions.

Corporations—are established by specific Act of the State Legislatures and headed by entrusted Mayors. The administration of city under a Corporation is entrusted to these authorities—(1) General Council of the Corporation. (2) Standing Committee of the Council and (3) the Commissioner or Executive officer.

Municipal Board and Committees—Municipalities with elected Presidents also function through Committees. All the members of a Municipality constitute its general body which discusses and decides all questions of policy and important details of municipal administration. The powers of passing the budget, imposing taxation, voting expenditure and making rules and regulations vest in the general body. The day-to-day work is carried on by an executive officer, drawn either from the State cadre of municipal executive officers or from State Civil Service.

Separation of Judiciary from Executive—Under Article 50 of the Indian Constitution separation of Judiciary from Executive has been carried out in several States. Broadly speaking, this system divides all the powers and functions of a Magistrate under two heads—(1) judicial and (2) non-judicial. The Officer discharging judicial functions have been placed under the High Court. For, Purely judicial work, only those qualified in law are eligible to become Magistrate. Similar schemes with modification to suit local conditions have been introduced in other States.

FOREIGN AFFAIRS

The history of the Ministry of External Affairs dates back to 1947, when it was set up under the name and style of "Ministry of External Affairs and Commonwealth Relations", by amalgamating the former two Departments of External Affairs and Commonwealth Relations of the Pre-independence Government of India. Subsequently, in 1949, the appendage 'Commonwealth Relations' was dropped, and the Ministry was renamed as the "Ministry of External Affairs" as it is known today.

Functions Aims and Objectives of the Ministry of External Affairs—In the external sphere, Ministry of External Affairs is responsible for the conduct of India's relations with foreign countries all its aspects—political, consular, economic, commercial, external publicity and cultural. The Ministry is also responsible for the country's representation in the United Nations, and advised other Ministries and State Governments when they have dealings with foreign government or institutions.

In the domestic sphere the Ministry of External Affairs is mainly responsible for the administration of the Indian Emigration Act, 1922, the Passport Act, 1967, and the Haj Committee Act, 1959.

The broad aims and objectives of the Ministry of External Affairs are—to promote friendly and cooperative relations with foreign and neighbouring countries, on the basis of sovereign equality, mutual respect and benefits;

—to promote closer economic and commercial relations with foreign countries, especially developing countries, through mutually advantageous economic, scientific and technical cooperation, at the bilateral regional and international levels;

—to promote trust and confidence in India, by projecting India's positive image abroad in its proper perspective, in terms of its national interests, deals and aspirations;

—to promote an environment and climate for international peace and stability, trust and understanding, harmony and cooperation, with a commitment to non-alignment and a new international economic order, global disarmament, and the elimination of the vestiges of colonialism and racialism;

—to effectively project the country's viewpoint in international conference and forums like the United Nations Organisations and its Agencies;

—to regulate the issue of passport facilities to Indian citizens, to protect them abroad, and to afford them the requisite consular facilities.

Organisations

The Ministry of External Affairs has the following Organisational set up :—

Ministry—The Ministry is under the charge of the Ministry of External Affairs who is assisted by a Minister of State for External Affairs.

Secretariat—The Ministry has three Secretaries namely (i) Foreign Secretary (ii) Secretary (East) (iii) Secretary (ER) and three Additional Secretaries in the Ministry.

The set-up of the Ministry is divided into 21 Divisions. Ten of these are Territorial Divisions which deal exclusively with India's relations with foreign countries, each Division dealing with several countries, grouped on a Territorial Regional basis. These ten Territorial Divisions are 1 Africa Division, 2 America Division, 3 B.S.M. Divisions, 4 East Asian Division, 5. Europe East Division, 6. Europe West Division, 7. Northern Divisions 8. Pak Iraq Division. 9. Southern Division and 10. West Asia and North Africa (WANA) Division.

Besides, there are eight specialised functional Divisions, Viz. 1. Economic Division, 2. External Publicity Division 3. Historical Division 4. Legal and Treaties Division, 5. Passport, Visa and Consular Division, 6. Policy Planning and Review Divisions, 7. Protocol Division and 8. United Nations and Conference Divisions.

The remaining three Divisions deal with Administration, Coordination and Finance, respectively.

Branch Secretariat, Calcutta—The Ministry has a Branch Secretariat at Calcutta, attending to liaison with the Central Government Agencies located there and the West Bengal authorities, in connection with the arrangements for supplies to the Government of Bangladesh under the Indo-Bangladesh Economic Cooperation Programme and liaison on behalf of the Ministry with Bangladesh Deputy High Commission in Calcutta.

Indian Mission & Posts Abroad—The Ministry has 130 Missions/Posts abroad and consists of 73 Embassies, 21 High commissions and 1 Assistant High Commissions (in commonwealth countries), 2 separate Permanent Missions of India to the United Nations (in New York & Geneva), 17 Consulate Generals, 8 Consulates, and 2 other Missions/Posts.

The Central Passport & Emigration Organisation, New Delhi—The Central Passport Organisation and Emigration Organisation, which had functioned as separate bodies till 1958, were amalgamated with effect from the 1st January, 1959 and redesignated as the Central Passport and Emigration Organisation. These are located at Ahmedabad, Bangalore, Bhopal, Bombay, Calcutta, Chandigarh, Imakulam, Hyderabad, Jaipur, Kozhikode, Lucknow, Madras, Bhubaneswar, Jullundur, Shrinagar, Gawahati and New Delhi.

Autonomous Bodies—The Indian Council for Cultural Relations (ICCR) is an autonomous body, administratively controlled by the Ministry of External Affairs from April 1970. The council is engaged in the twin tasks of promoting and interpreting abroad Indian Culture in its widest sense, as well as in establishing reviving and strengthening Cultural ties between India and other countries. This is achieved through a variety of cultural Activities, such as sponsoring the exchange of scholar, writers, artists, cultural troupes and youth delegation organising lectures, Film Festivals and Exhibitions maintenance of Indian Cultural Centres and Chairs of Indian Studies abroad and carrying on its Publications and Books Presentations Programmes. The ICCR administers the annual Jawaharlal Nehru Award for International Understanding. It also maintains as Indian Centre of Africa and arranges for Welfare and Orientation Courses of Foreign Students in India.

INDIAN REPRESENTATIVES IN FOREIGN COUNTRIES

Embassies

Incorporated upto 1st July, 1988

Afghanistan—I.P. Kholsa, Embassy of India, Malalai Wat, Shahr-Nau, Kabul.

Algeria—C.P. Robindranathan, Embassy of India, 119 ter, Rue Didonche Mourad 4th Floor, Algiers.

Argentina—Smt Soonu Kochar, Embassy of India, Paraguay 580(3rd floor). Buenos Aires. (concurrently Ambassador to Paraguay and Uruguay).

Austria—J.R. Hiremath, Embassy of India, Opernring Steiege R/VIII 1, A—1010, Vienna-1.

Bahrani—H.P.M. Manon, Embassy of India, "Wolverhampton" H. No. 172, Road 3610.

District 336, Mahooz, Bahama, Bahrain.

Belgium—G.V. Ramakrishna, Embassy of India, 217, Chausse-de-Vleuragat Avenue, 1050. Brussel (currently Ambassador to Luxembourg)

Benin, Republic of—Deb Mukherjee, Embassy of India, Cotonou, C/o High Commission of India, Lagos, resident in Lagos (Nigeria).

Bhutan—Nareshwar Dayal, Embassy of India, New India House Estate, Thimphu.

Bolivia—Savitri Kunadi, Embassy of India, La Paz, C/o, Embassy of India, Lima.

Brazil—A.R. Kakodhkar, Embassy of India, Edificio Vanancia VI, Block 'O' 5th floor, Sector de Diversoes Sul, Brasilia-ADF.

Bulgaria—Vacant, Embassy of India, 31 Blvd, Patriarch Eftimi, Sofia.

Burma—Dr. I.P. Singh, Embassy of India, Oriental Assurance Building 545—547 Merchant St. Box No. 751, Rangoon.

Burundi—N.N. Desai, Embassy of India, Bujumbura, Ambassador resident in Kampala (Uganda).

Cameroun—Deb Mukherjee Embassy of India, Yaunde, (concurrently H.C. to Nigeria with residence in Lagos (Nigeria).

Canary Island—C. Bulchand, Consulate of India, 35, Triana, Las Palmas.

Cape Verde Islands—T. Pravakar Manon, Embassy of India, Cape Verde Islands, resident in Dakar.

Central African Republic—Nigam Prakash, (concurrently Ambassador to Congo and Zaire, residence in Kinshasa, (Zaire).

- Chad—Deb Mukherjee, Embassy of India, Chad, resident in Khartoum.
- Chile—S.K. Kathalia, Embassy of India, 871, Triana, Santiago, (concurrently Ambassador to Bolivia).
- China—C.P. Ranganathan, Embassy of India, 1 Ri Tan Oong LU, Beijing.
- Colombia—M.K. Khisha, Embassy of India, Carrera 27, No. 40-70 Bogota.
- Comores—K.R. Sinha, Embassy of India, resident in Antananarivo (Malagasy).
- Congo—Nigam Prakash, Embassy of India, Brazzaville, Ambassador resident in Kinshasa (Zaire).
- Costa Rica—S.J. Singh, Embassy of India, San Jose, Ambassador resident in Panama.
- Cuba—H.K. Mangalmurti, Embassy of India, Calle, 32, No. 202 esquina a K ; Vedado, Havana.
- Czechoslovakia—B.H. Oza, Embassy of India, Valdstejska-6, Malastrana, Prague-1.
- Dahomey—Smt. Rukmini Menon, Embassy of India, Cotonou (concurrently H.C. to Nigeria, residence in Lagos).
- Denmark—R.C. Shukla, Embassy of India, Vengehusvej 15, Copenhagen.
- Djibouti—S.K. Arora, Consulate of India, Post Box No. 171, Djibouti.
- Dubai—P.L. Goyal, Post Box 737, Dubai.
- Ecuador—A.B.W. Vag, Ambassador resident in Lima.
- Egypt, Arab Republic of—S.K. Bhutani, Embassy of India, 5 El Shaer Aziz Abaza Street, Zamalek, Cairo.
- El Salvador—K.C. Soni, Embassy of India, resident in Mexico.
- Equatorial Guinea—Nigam Prakash, Embassy of India, resident in Kinshasa.
- Ethiopia—S.K. Arora, Embassy of India, Kabana, (Aware district), P.B. No. 528, Addis Ababa.
- Finland—K.P. Fabian, Embassy of India, Annankatu 15B 14 (5th Floor) 00120, Helsinki-12.
- France—Smt. Soonu Kahar, Embassy of India, 15, Rue Alfred Deholencq, Paris-16.
- Gabon—Nigam Prakash, Ambassador resident in Kinshasa (Zaire).
- Germany, Democratic Republic of—J.S. Doddamani, Embassy of India, 89 VI Clara—Zetkin Strasse, 108-Berlin (GDR).
- Germany, Federal Republic of—A. Madhavan, Embassy of India, 262/264, Adenaueralle, 5300-Bonn.
- Greece—B.P. Agarwal, Embassy of India, Melleaugoon Street, No. 4 Athens-13-8.
- Guatemala—H.C.S. Dhody, Embassy of India, resident in Mexico City.
- Guinea—S.K. Uppal, Embassy of India, Kebe Bldg., 3rd Floor, B.P. 186/bis, Conakry-1.
- Guinea Bissau—T. Pravakar Rao, Embassy of India, Bissau, C/o. Embassy of India, Dakar (Senegal), resident in Dakar.
- Holy See—A.S. Chib, Embassy of India, resident in Berne.
- Hungary—S.K. Lambah, Embassy of India, Buzavirag Utc-14, Budapest II.
- Iceland—R.K. Anand, Embassy of India, Reykjavik, Ambassador resident in Oslo (Norway).
- Indonesia—R.S. Kalha, Embassy of India, 19, Jalan Kebon Sirih, Djakarta.
- Iran—R.C. Arora, Embassy of India, 166, Sabah Somali Avenue, off Takhte Jamshid, P.B. No. 2473, Tehran.
- Iraq—K.N. Bakshi, Embassy of India, Taha Street, Naieeb Pasha, Adhamiya, Baghdad.
- Ireland—Prem Shankar, Embassy of India, 3 Lesson Park, Dublin 6..
- Italy—A.M. Khaleeli, Embassy of India, Via Venti Settembre, 5, Rome.
- Ivory Coast—P.R. Sood, Embassy of India, Hotel Ivoire, 06BP318 Abidjan-06, (concurrently accredited as Ambassador to the Republic of Niger).
- Japan—A.G. Asrani, Embassy of India, 2-11 Kudan Minami, 2-Chome, Chiyodaku, Tokyo.
- Jordan—Gurcharan Singh, Embassy of India, Taufic Marar Bldg., near 1st Circle, Jabal Amman, P.B. No. 2168, Amman.
- Kampuchea—R. Wangoli, Charge d' Affairs, Embassy of India, Villa No. 7.77, Boulevard Achar Mean, Phnom Penh.
- Korea, Republic of—S.T. Devare, Embassy of India, San-2-1, Bokwang-Dong, Yongsan-ku, Seoul.
- Korea, Democratic Peoples Republic of—S.S. Gill, Embassy of India, Block 66, Munsulong district Dadong Yong, Pyong Yang.

- Kuwait—N.N. Jha, Embassy of India, 34 Share Istiqlal. P.B. No. 1450 (Safat) Kuwait.
- Laos—G.M. Jambholkar, Embassy of India, Rue that Luang, P.B. No. 225, Vientiane.
- Lebanon—M. Vendataraman, Embassy of India, Sahamam Building, 31 Kantari Street, P.B. No. 1764, Beirut.
- Liberia—M.S. Malik, Embassy of India, Monrovia, Ambassador resident in Accra, (Ghana).
- Libya—K.Dashi, Embassy of India, 16/18, Sh. Armondi Garden City, P.O. Box No. 3150, Tripoli, (concurrently accredited as High Commissioner to Malta).
- Luxembourg—Dr. N.P. Jain, Ambassador resident in Brussels (Belgium).
- Malagasy, Republic of—Inderjit Singh, Embassy of India, 4, Lalana Rajaonson Emile, Antananariv (concurrently accredited as Ambassador to Comores).
- Maldives—Brij Kumar, Embassy of India, Mafannuaage No. 37 Orchid Road, Matannu Male.
- Mali—T. Pravakar Menon, Embassy of India, Bamako, Resident in Dakar (Senegal).
- Mauritania—T. Pravakar Menon, Ambassador resident in Dakar (Senegal).
- Mexico—N.C. Soni, Embassy of India, Masset 32, Colonia Polanco, Mexico 5 ; D.F. (concurrently Ambassador to Guatemala and El Salvador).
- Mongolia—B.B. Iyer, Embassy of India, 26-peace Street, P.B. No. 691, Ulan Bator.
- Morocco—R.N. Singhal, Embassy of India, 10, Avenue de champagne (Agdal), Rabat (concurrently accredited as Ambassador to Mauritania).
- Mozambique—B.M.C. Nayar, Embassy of India, Avenida Kanneth Kaunda, 167, P.O. Box No. 4751, Maputo (concurrently accredited as H.C. to Swaziland and Lesotho).
- Nepal—A.R. Dev, Embassy of India, G.P.O. Box No. 292, Kathmandu.
- Netherlands—K. Srinivasan, Embassy of India, Buitenrustweg 2, The Hague.
- Nicaragua—S.J. Singh, Embassy of India, resident in Panama.
- Niger—P.R. Sood, Embassy of India, resident in Abidjan (Ivory Coast).
- Norway—R.K. Anand, Embassy of India, Niles Juels 6T-30 Oslo 2, (concurrently Ambassador to Iceland).
- Oman—G. Wakankar, Embassy of India, P.B. No. 4727, Ruwi, Greater Muttrah, Muscat.
- Pakistan—S.K. Singh, Embassy of India, 482f, Sector G-6/4, Islamabad.
- Panama—S.J. Singh, Embassy of India, P.B. 8400, Apartment No. 1, Panama (concurrently accredited as Ambassador to Costa Rica and Nicaragua).
- Paraguay—Smt. Soonu Kochar, Embassy of India, Asuncion, Ambassador resident in Buenos Aires (Argentina).
- Peru—Kumari Savitri Kumadi, Embassy of India, San Ignacio De Loyola 150, Miraflores, Lima (concurrently accredited as Ambassador to Ecuador).
- Philippines—K. Raghunath, Embassy of India, 'Casmer Bldg.' Salcedo St., Legaspi Village, P.O. Box No. 926-MCC, Makarti, Metro Manila.
- Poland—G.S. Bedi, Embassy of India, No. Rajtana 15 (Flats 2-7) Mokotow, Warsaw-02-516.
- Portugal—Dr. Henry Austin, Embassy of India, Rua das Amoreiras 72-D, 6th Floor, Lisbon-1.
- Qatar—S.L. Malik, Embassy of India, Sheikh Suheim Villa No. 5, El Sheikh Suheim Street, Doha.
- Rumania—N.R. Varma, Embassy of India, 16 Str. Stefan Gheorghiu, Bucharest.
- Rowanda—N.N. Desai, Embassy of India, Kigali, Ambassador resident in Kampala (Uganda).
- Saudi Arabia—Ishrat Aziz, Embassy of India, Ibrahim Masood Bldg., Medina Road, Baghdadia, P.O. Box No. 952, Jeddah.
- Senegal—T. Pravakar Menon, Embassy of India, Immeuble Danial Sorano 45 Boulevard dela Republic, P.B. 398, 9th Floor, Dakar (concurrently Ambassador to Cape Verde Islands, Mali, Guinea Bissau and High Commissioner to Gambia).
- Somalia—K.M. Lal, Embassy of India, Jigiga Road, Shingani, Mogadishu.
- Spain—K.D. Sharma, Embassy of India, Velazquez 93, Madrid-6.
- Sudan—T. Cherpoor, Embassy of India, 2, El Mek Nimir St., P.O. Box No. 707, Khartoum (concurrently Ambassador to Chad).
- Surinam—B.P. Sinha, Embassy of India, Kromme Elleboogstraat 5, Paramaribo.
- Sweden—P. Johari, Embassy of India, Adolf Fredriks Kydoata 12 II, Box 1340, S-1183, Stockholm.
- Switzerland—A.S. Chili, Embassy of India, Welpoststrosse 17, Berne 3015 (concurrently

Ambassador to Holy Sea).

Syria—Vacant, Embassy of India, 40/46, Adhan Malik Street, Yassin Nauwelati Bldg., P.B. 685 Damascus.

Thailand—Vinay K. Varma, Embassy of India, 139, Pan Road, Bangkok.

Togo—M.S. Malik, Embassy of India, Lome (concurrently High Commissioner to Ghana, with residence in Accra).

Tunisia—L.N. Rangarajan, Embassy of India, 6, Rue Felician Challaye, Bevedere, Tunis.

Turkey—V.K. Grover, Embassy of India, Gaziosanpasa, Kirlangic Sokak No. 9, Ankara.

United Arab Emirates—Indrajit Singh Rathore, Embassy of India, Plot No. C-34, Sestro E9, Khalifa Banzayed Street, P.B. 4090, Abu Dhabi.

Upper Volta—Guruchran Singh, Embassy of India, Ouagadougou resident in Accra.

Uruguay—Smt. Soonu Kochar, Embassy of India, Montevideo, Ambassador resident in Buenos Aires (Argentina).

U.S.A.—Dr. Karan Singh, Embassy of India, 2710, Massachusettes, Avenue, N.W., Washington, D.C. 20008.

U.S.S.R.—E. Gonsalves, Embassy of India, 6 & 8, Ultisa Obukha, Moscow.

Venezuela—Ranjit Gupta, Embassy of India, Edificio Nuevo Centro Piso 7, officina 'B' Agenida, Libertador, Apartado de Correos del Este 61585, Chacao, Caracas-106.

Vietnam, Socialist Republic of—A.B. Patwardhan, Embassy of India, 58, Tran Hung Dao, Hanoi.

Yemen, Arab Republic of—K.P. Bala Krishnan, Embassy of India, Al Jawahar Area of Zu-Road, P.B. No. 1154, Sanna.

Yemen, People's Democratic Republic of—P.S. Sahai, Embassy of India, Premijee Chambers, Steamer Point, Aden.

Yugoslavia—L.L. Mehrotra, Embassy of India, Dositeyeva 26, Belgrade.

Zaire—Nigam Prakash, Embassy of India, P.B. No. 1026, 18B, Avenue des Batetela, Gombe, Kinshasa, (concurrently Ambassador to Gabon and Congo (Brazzaville), Central African Republic and Equatorial Guinea).

High Commissions

Australia—M.H. Ansari, High Commission of India, 3-5, Moonah Place, Yarralumla, Canberra, 2600.

Bangladesh—Krishnan Srinivasan, High Commission of India, Road No. 3, Dhanmondi Residential Area, Dhaka-2.

Bahamas—P.K. Kaul, High Commission of India, resident in Washington.

Barbados—Shiv Kumar, High Commission of India, Bridgetown, resident in Port of Spain (Trinidad).

Botswana—H.K. Bhasin, High Commission of India, Goverones, resident in Lusaka.

Canada—S.J.S. Chattwal, High Commission of India, 10 Springfield Road, Ottawa, Canada.

Cyprus—R.M. Abhyankar, High Commission of India, No. 3, Astemidhos Street, Montparasse Engonie, Nicosia.

Fiji—C.P. Rabindranathan, High Commission of India, Suite No. 202, Fiji Development Bank Bldg., Victoria Parade, G.P.O., Box 405 Suva (concurrently accredited as High Commission to Kingdom of Tonga, Republic of Nauru and to Papua New Guinea).

Gambia—T. Pravakar Menon, High Commission of India, Bathurst (concurrently Ambassador to Senegal and Ivory Coast with residence in Dakar, Senegal).

Ghana—M.S. Malik, High Commission of India, 12 Monkata Avenue, Airport Residential Area, P.O. Box No. 3040 Accra (concurrently Ambassador to Togo, Liberia and Upper Volta).

Grenada—Shiv Kumar, High Commission of India, resident in Port of Spain (Trinidad).

Guyana—G.D. Atuk, High Commission of India, 10, Avenue of the Republic, P.O. Box No. 872, Georgetown.

Jamaica—K.C. Lalvunga, High Commission of India, Kingston, 4, Retr at Avenue, Kingston.

Kenya—Smt. Manorama Bhalia, High Commission of India, Jeevan Bharati Bldg., Harambee Avenue, P.B. 30074, Nairobi.

- Kampuchea—Dith Muety, C-4/4 Vasant Vihar, New Delhi-57.
- Korea (Democratic Republic)—Jo Chon II, 42-44, Sundar Nagar, New Delhi-3.
- Korea (Republic)—Chung-Tai-Kim, 9, Chandragupta Marg, Chanakyapuri New Delhi-21.
- Kuwait—Ambassador, Essa Abdul Rahman Al-Essa, 5A, Shantipath, Chanakyapuri New Delhi-21.
- Laos—Ambassador, Saby Khansy, 20, Jor Bagh, New Delhi-3.
- Lebanon—Ambassador, Rabia Haidar, 10, Sardar Patel Marg, Chanakyapuri, New Delhi-21.
- Mexico—Ambassador, Prof. Dr. Mrs. Gracide de(la) Lama, 10, Jor Bagh, New Delhi-3.
- Mongolia—Ambassador, Bayaryn Jargal Saikhan, 34, Golf Links, New Delhi-3.
- Morocco—Ambassador, Larbi Mouline, 33, Archbishop Makario's Marg, New Delhi-110021.
- Nepal—Ambassador, Jagdish Rana, Barakhamba Road, New Delhi-1.
- Netherlands—Ambassador, Adrian Van de Willigen, 5/50-F, Shantipath, Chanakyapuri, New Delhi-21.
- Nicaragua—Hon. Consul S. J. Rege, 8/83, Poornand Saraswati Co-op. Housing Society, Banganga Road, Walkeshwar, Bombay-26.
- Norway—Ambassador, Tancred Ibsen, Kautilya Marg, Chanakyapuri, New Delhi-21.
- Oman—Ambassador, Abdulla Said Rashid Al-baluchi, Vasant Vihar, 16, Palam Marg, New Delhi-57.
- Pakistan—Ambassador, Bashir Khan Babar, 2/50-G, Shantipath Chanakyapuri, New Delhi-110021.
- Panama—Ambassador, Horacio Bustanmende, S-260, Greater Kailash II, New Delhi-48.
- Paraguay—Ambassador, Vacant, Stationed at Tokyo.
- Peru—Ambassador, Vacant, Ric, 3/5, Santiniketan, 1st Floor, New Delhi-21.
- Philippines—Ambassador, Emiliee, D. Bejasa, 50-N, Nyaya Marg, Chanakyapuri, New Delhi-21.
- Poland—Ambassador, R. Fijalkowaki, 50-M, Shantipath, Chanakyapuri, New Delhi-110021.
- Portugal—Ambassador, Dr. Antonio de Menezes Cordeiro, A-24, West End Colony New Delhi-21.
- Romania—Ambassador, Dr. Nicolae Finanter, A-52, Vasant Marg, Vasant Vihar, New Delhi-57.
- Saudi Arabia—Ambassador, Shaikh Anas Yousef Yassin, 1, Eastern Avenue, Maharani Bagh, New Delhi-14.
- San Marino—Hon. Consul-General, Gr. Uff Bhai Mohan Singh, 15, Aurangzeb Road, New Delhi-11.
- Somali (Democratic Republic)—Abdullahi Egal Nur, B-23, Greater Kailash, New Delhi-48.
- Spain—Ambassador, Enrique Mahon, 12 Prithviraj Road, New Delhi-11.
- Sudan—Ambassador, Abdul Munem Mustafe, 6, Jor Bagh, New Delhi-3.
- Sweden—Ambassador, Axel Edelstam, Nyaya Marg, Chanakyapuri, New Delhi-21.
- Switzerland—Ambassador, Peter Erni, Nyaya Marg, Chanakyapuri, New Delhi-21.
- Syria—Ambassador, Mohamad Khodar, 28, Vasant Marg, Vasant Vihar, New Delhi-57.
- Thailand—Ambassador, Birath Israsena, 56-N Nyaya Marg, Chanakyapuri, New Delhi-21.
- Turkey—Ambassador, Ildiruz Diveanlioglu, Plot-4, Block "N 50", Chanakyapuri, New Delhi-21.
- Tunisia—Abderaont Ounaies, B-9/22, Vasant, Vihar, New Delhi-57.
- United Arab Emirates—Ambassador, Abdul Aziz Bin Nasser Al-Owais, A-7, West End, Rao Tula Ram Marg, New Delhi-21.
- U.S.A.—Ambassador, William Clank, Chanakyapuri, New Delhi-21.
- U.S.S.R.—Ambassador, Viktor Isakov, Shantipath, Chanakyapuri, New Delhi-21.
- Uruguay—Ambassador, Alberto Rodriguez Nin, 45, Ring Road, Lajpat Nagar III, Delhi-24.
- Venezuela—Ambassador, Ecuadro Soto-Alvarey, N-114, Pancha-sheela Park, New Delhi-17.
- Vietnam, Democratic Republic of—Ambassador, Nguyen Van Sinh, 35, Prithviraj Road, New Delhi-11.
- Vietnam, South—Ambassador, Nguen Van Sin.

Yemen, Peoples' Democratic Republic of—Ambassador, Taha Ahmed Ghanim, 29. M. G. Marg, Lajpat Nagar, New Delhi-24.

Yugoslavia—Ambassador, Danibo Vilariouic, 3/50-G, Niti Marg, Chanakyapuri, New Delhi-21

Zaire—Ambassador, Baberi Achito, 160, Jor Bagh, New Delhi-3.

High Commissions

Australia—High Commissioner, Graham B. Feakes, 1/50-G, Shantipath, Chanakyapuri, New Delhi-11.

Bangladesh—High Commissioner, Faruq Ahmed Chowdhury, 56, Ring Road, Laipatnagar, New Delhi-110 024.

Britain—High Commissioner, A.D.F. Goodall, Shantipath, Chanakyapuri, New Delhi-21.

Canada—High Commissioner, William T. Warden, 7/8, Shantipath, Chanakyapuri, New Delhi-21.

Cyprus—High Commissioner, Antonios J. Vakis, 52, Jor Bagh, New Delhi-3.

Ghana—High Commissioner, Kwame Sarah-Mensah, A-42, Vasant Marg, Vasant Vihar, New Delhi-57.

Guyana—High Commissioner, S. S. Naraine, 85, Poorvi Marg, Vasant Vihar, New Delhi-57.

Kenya—High Commissioner, S. O. Magelo, 66, Vasant Marg, Vasant Vihar, New Delhi-57.

Malaysia—High Commissioner, Razali Ismail, 50-M, Satya Marga, Chanakyapuri, New Delhi-21.

Mauritius—High Commissioner, Anund Pryay Newoor, 5, Kautilya Marg, Chanakyapuri, New Delhi-21.

New Zealand—High Commissioner, Sir Edmund Hillary, 39, Golf Links, New Delhi-3.

Nigeria—High Commissioner, T. O. Asiwa Ju-Doda, 21, Palam Marg, Vasant Vihar, New Delhi-57.

Singapore—High Commissioner, Cheng Keng Hawa, B-70, Greater Kailash I, New Delhi-48.

Sri Lanka—High Commissioner, Bernard Tilakaratna, Panabokka, 27, Kautilya Marg, Chanakyapuri, New Delhi-27.

Tanzania—High Commissioner, Mohammed Ali Fom, E-104 and E-106, Greater Kailash New Delhi-48.

Trinidad and Tobago—High Commissioner, Nathan Hazel, 131, Jor Bagh, New Delhi-3.

Uganda—High Commissioner, Gurdail Singh, 61, Golf Links, New Delhi-3.

Zambia—High Commissioner, A.M. Phiri, 14, Jor Bagh, New Delhi-3

National Honours & Awards

NATIONAL FLAG : The first national flag in India was hoisted on August 7, 1906 in the Parsee Bagan Square, Calcutta. The flag was composed of horizontal stripes of red, yellow and green.

The second flag was hoisted by Madame Cama and her band of exiled Indian revolutionaries in Paris in 1907. It was similar to the first with slight modifications.

The third flag was hoisted during Home Rule Movement in 1917 by Dr. Annie Basant and B. G. Tilak. This flag had five red and four green horizontal stripes and in the left hand top corner (the pole end) was the Union Jack occupying one-fourth of the space and with seven stars in the centre. There was also a crescent and a star in one corner.

The Tri-colour flag was first born in A. I. C. C. meeting at Bezwada in 1912 when a flag was shown by an Andhra youth and improved by Mahatma Gandhi with the addition of a white stripe and charka. Though not officially accepted by the Congress, it was hoisted on all Congress occasions. In 1931, When A. I. C. C. met at Karachi a resolution was passed stressing the need for a national flag. In the same year, a resolution was passed adopting a tri-colour flag as our National Emblem. It had three colours ; saffron for courage and sacrifice, white for truth and peace, green for faith and chivalry. It also carried a charka in rule in white band. The size was

three lengths by two breadths.

On July 22, 1947, with the attainment of independence, the Constituent Assembly adopted it as free India's National Flag. The colours and their significance remained the same. The Dharma Chakra of Emperor Asoka was adorned instead of charka.

The National Flag of India now consists of horizontal tri-colour of deep saffron at the top, white in the middle and dark green at the bottom in equal proportions. The ratio of the width of the flag to its length is 2:3 in the centre of the white band, is a wheel in Navy blue to present the chakra. Its design is that of the wheel which appears on the abacus of the Samath Lion Capital. Its diameter approximates to the width of the white band, a 24 spokes. The National Flag was adopted by the Constituent Assembly of India on July 2, 1947 and was presented to the nation at the midnight session of the Assembly on August 14, 1947.

Flag Code—The Flag Code was issued by the Government of India; the following, are the main Flag Code rules—

- (1) Code prohibits the dipping the flag to any person or thing.
- (2) No flag or emblem should be placed above the National Flag or to its right. All flag are to be placed to the left of the Flag if they are hung in a line. When other flags are raised, the National flag must be the highest.
- (3) When the Flag is displayed from a staff projecting horizontal or at an angle from window-sil, balcony, or from a building the saffron side shall be at the further end of the staff.
- (4) When the Flag is displayed in a manner otherwise than by being flown a staff, the saffron band must be uppermost where it is displayed flat and horizontal on a wall; when displayed vertically, the saffron band should be on the right with reference to the Flag, i.e. it should be to the left of a person standing facing it. When displayed over the middle of a street running east-west of north-south, the Flag shall be suspended vertically with saffron band to the north or the east as the case may be.
- (5) When the Flag is carried in a procession or a parade, it shall be either on the matching right, that is the Flag's own right, or if there is a line of other flags, in front of the centre of the line.
- (6) Normally, the National Flag should be flown on all important Government buildings such as high courts, secretariats, commissioners' offices, collectorates, jails, and the offices of district boards and municipalities. The Frontier areas may fly the National Flag at some special points.
- (7) Use of the Flag will, however be unrestricted on certain special occasions, such as Republic Day, Independence Day, Mahatma Gandhi's Birthday, during National Week and on any other days of National rejoicing. Even on such occasion, the normal provisions regarding display of the National Flag on motor cars shall not be relaxed.
- (8) Use of the National Flag or any colourable imitation of it for the purpose of any trade, business, calling or profession or in the time of any patent or in any trade-mark or design without the prior permission of the Central Government is an offence.

NATIONAL EMBLEM : The National Emblem of India is an adaptation from the Samath Lion Capital of Asoka as it is reserved in the Samath Museum. In the original, to mark the spot where Buddha first preached to his disciples, there are four lions, standing back to back, mounted on an abacus with a frieze carrying sculptures in high relief of an elephant, a galloping horse, a bull and a lion separate by intervening wheels (Chakras) over a bell-shaped lotus.

In the National Emblem adopted by the Government of India on Jan. 26, 1950 only three lions are visible, the fourth being hidden from view. The wheel (Chakra) appears in relief at the centre of the abacus with a bull on the right, a horse on the left and the outlines of the other wheels (Chakra) on the extreme right and left. The bell-shaped lotus has been omitted. The words Satyameva Jayate, meaning 'Truth alone triumphs', are inscribed in Devanagari script below the Emblem.

The facts that the original Lion Capital designed 242-232 B.C. was created by Emperor Asoka to hallow the spot where the Buddha first initiated his disciples in the eight-fold Salvation, invests the Emblem with historical and spiritual significance. Carved out a single block of

sandstone, the original Capital was surmounted by wheel of law (Dharma Chakra).

The Constituent Assembly decreed on July 22, 1947 that this Chakra was to be the reproduction of the Wheel on the abacus of Asoka's Lion Capital at Samath and would also represent or recall the Charka (spinning-wheel) on which Mahatma Gandhi laid such stress.

But a passage on page 134 of the 1961 reprint of the 3rd (1958) edition of 'The Oxford History of India' makes one wonder if this Dharmic Wheel still in its original position relative to the lions; for on that page the late Sir John Marshall, who was Director General of Archaeology in India from 1902 to 1931 and conducted extensive exploration at Samath from 1902 to 1908, it cited as saying that the Wheel was then 'supported by', and so elevated above, the four lions of the Capital.

This rather suggests that it was relegated to an abacus below their paw when Capital was repaired after Sir John left India.

It is noteworthy too, that their Lordships of the Supreme Court adhere on their stationery to Sir John's description, and show the lions as holding the Wheel above their heads. And that is surely where one would expect to find the Wheel that symbolizes the subjection of all men to the Law of Dharma until their spirits are released through the Four Noble Truths from the trammels of the flesh.

And even the 'king of beasts', the lion is of lower status than human. So it seems most unlikely that Asoka would have been given pride of place above this sacred Dharma Chakra whose unceasing gyration animate the cosmos and control the destiny of man.

NATIONAL ANTHEM: The Constituent Assembly of India adopted on January 24, 1950, Rabindranath Tagore's song Jana-gana-mana as the National Anthem of India. The song first sung on December 27, 1911 during Indian National Congress session at Calcutta. It was concurrently decided that Bankim Chandra Chatterjee's famous invocation, Bande Mataram occurring in his novel Ananda Math, published in 1882, shall have an equal status. The first political occasion in which it was sung, was the 1896 session of the Indian National Congress.

The Orchestral, Choral and Military Band version of Jana-gana-mana have been standardised. The Government of India have emphasised that the general public should use the authorised version of the Anthem both on public and private occasions.

NATIONAL CALENDAR: A uniform National Calendar, based on the Saka era with Chaitra as the first month and a normal year of 365 days, has been adopted by the Government of India with effect from March 22, 1957 along with the Gregorian Calendar. The days of this Calendar have a permanent correspondence with the days of the Gregorian Calendar. Chaitra 1 falling on March 22 in a common year and on March 21 in a leap year. The National Calendar has been accepted by the following official purposes—(1) The Gazette of India, (2) News broadcasts by A.I.R. (3) Calendars issued by the Government of India. (4) Communication issued by the Government of India, and addressed to members of the public (See also 'The Calendar' Section).

NATIONAL BIRD: The Government of India announced in 1964 that Peacock is the National Bird of India.

NATIONAL ANIMAL: Tiger is the National Animal of India since November 1972. Previously Lion was the National Animal of India (announced on 9th July, 1956).

AWARDS, DISTINCTIONS & TITLES: The Government of India headed by Morarji Desai on July 13, 1977 decided to discontinue the institution of national awards—Bharat Ratna and Padma awards. Those who had received such awards in the past were informed that they would not be allowed to use them as titles.

But in January 1980 the new Union Government headed by Indira Gandhi decided to revive the following distinctions and titles.

Bharat Ratna—The award is made for exceptional work for the advancement of art, literature and science and in recognition of public service of the highest order. The decoration in the form of a peepul leaf, 2 inches long, 1 1/8 inches in width and 1/2 inch thick. It is a toned bronze. On the obverse side is embossed a replica of the sun, below which the words Bharat Ratna are embossed in Hindi. On the reverse are the State Emblem, and the motto, also in Hindi. The Emblem the sun and the rim, are made of platinum.

Padma Vibhushan—The award is made for exceptional distinguished services in any field, including service rendered by Government servants.

Padma Bhushan—The award is made for distinguished services of high order in any field, including service rendered by Government servants.

Padma Shri—The award is made for distinguished services in any field, including services by Government servants.

FOR GALLANTRY IN THE FACE OF THE ENEMY

Param Vir Chakra—is the highest decoration of valour awarded for the "most conspicuous bravery or some daring or pre-eminent act of valour or self sacrifice in the presence of the enemy, whether on land, at sea, in the air". The decoration made of bronze and is circular in shape. It has on the obverse side four replicas of India's "Vajra" embossed round, the State Emblem in the centre. On the reverse, the words, "Param Vir Chakra" are embossed on both Hindi and English, with the two lotus flowers in the middle. The decoration is worn on the left chest with a plain purple-coloured ribbon an inch and a quarter in width.

Maha Vir Chakra—is the second highest decoration, and is awarded for acts of conspicuous gallantry in the presence of the enemy, whether on land, at sea, or in the air. It is made of standard silver and is circular in shape.

Vir Chakra—is third in the order of awards for acts of gallantry in the presence of the enemy, whether on land, at sea or in the air. The decoration is made of standard silver and is circular in shape.

A recipient of any of these decoration is entitled to special pension.

Mentioned in Despatches—In recognition of distinguished and meritorious service in operational areas and acts of gallantry of an order not sufficiently high to warrant the grant of gallantry awards, a system of Mentioned in Despatches was instituted with effect from August 16, 1947. Those who are 'mentioned in despatches' are entitled to have an emblem—a miniature leaf.

FOR GALLANTRY OTHER THAN IN THE FACE OF THE ENEMY

Ashoka Chakra—is awarded for the most conspicuous bravery or some daring or pre-eminent act of valour of self-sacrifice on land, at sea or in the air.

Kirti Chakra—is awarded for an act of gallantry. It is exactly like the other Chakras, except that it is made of bronze.

Officers and all other ranks of the Army, Navy and Air force, the Reserve forces, the Territorial Army, the Military and any other lawfully constituted forces, as also members of the Nursing service of the Armed Forces and civilian citizens of either sex in all walks of life are eligible for the above awards.

Bishisht Seva Medals—The Vishisht Seva (Distinguished Services) Medals (Param Vishisht Seva Medal, Ati Vishisht Seva Medal) are awarded to personnel of all the Services in recognition of distinguished service of the "most exceptional" and a "high" order respectively.

Campaign Medals—1. General Services Medal—is awarded for services, rendered under active service condition after August 15, 1947. An individual qualifying for it for the first time is awarded the medal together with a clasp indicating the particular operation for which the awards has been made.

2. Clasps—So far two clasps have been instituted; (a) Jammu & Kashmir Clasp was awarded for operation in Jammu & Kashmir between October, 1947 and January 1949; (b) Overseas Clasp was intended for services overseas. The first issue was made to those service personnel who saw operational service in Korea between 1950 and 1953.

Medals for Meritorious Service and Long Service and Good Conduct—There are two classes of medals; (1) Meritorious Service Medal is awarded on a Service-wise allotment of vacancies at the rate of one per 900 men of the authorised strength; (2) Long Service and Good Conduct Medal is awarded on a Service-wise allotment of vacancies at the rate of two per 900 men.

Jeevan Raksha Padak—This medal is awarded for meritorious acts or a series of acts of a human nature displayed in saving life from drowning, fire and in rescue operation in mines etc.

Decorations to Territorial Army Personnel—1. Territorial Army Decorations is awarded to Commissioned Officers of the Territorial Army with 20 years of meritorious service. 2. Territorial Army Medal is awarded to Junior Commissioned Officers, Non-Commissioned Officers and the men of the Territorial Army 12 years efficient service.

AKADEMI AWARDS : Lalit Kala Awards—Annual awards are given to outstanding artists participating in the National Exhibition of Art. The Akademi also honours it fellow with Tamrapatra, Angawastra and Rs. 10,000 as a token of respect for their outstanding contribution in the field of art.

Sahitya Academi Awards—Prizes of Rs. 25,000 each are awarded annually to the authors of most outstanding books of literary merits published in each of sixteen Indian languages recognised by the Akademi. There are also three awards for Sanskrit, English and Nepali. The award in the form of the casket containing an inscribed copperplate. R. 10,000 /- as award in given for translation work in each language from 1989.

Sangeet Natak Akademi Awards—Annual awards are given to outstanding artists in the field of dance, drama and music (vocal and instrumental).

OTHER DISTINGUISHED AWARDS

Jawaharlal Nehru Awards for International Understanding—is given annually for outstanding contribution to the promotion of international understanding goodwill and friendship among the people of the world. The award carries a cash prize of Rs. 1,00,000 and a citation.

Shanti Swarup Bhatnagar Memorial Awards—for scientific research are given by the Council of Scientific and Industrial Research since 1958. Awards are given each year for research in the fields of Physical Sciences, Chemical Sciences, Biological Sciences, Engineering Sciences, Medical Sciences and Mathematic (alternative years). Each Award carries the cash of Rs. 10,000.

Awards of Scholars—Certificates Honour and a monetary grant of Rs. 1,500 per annum for life, to eminent Sanskrit, Persian and Arabic scholars have been instituted since 1958.

Arjun Awards—made to the "Sportsman of the year" were instituted in 1961 and are made on the basis of outstanding contribution made to enhance the glory of the game during the year.

National Film Awards—of high aesthetic and technical standard and of an educative and cultural value have been a regular annual feature since 1954. The Award are given separately for feature, documentary, educational, experimental and children's films in 16 mm. and film strips in 35 mm. Under feature films, there are five types of films entitled to awards. They are : Films based on high literary works both contemporary and classics; or high social and national objectives and on family planning. The national best feature film gets the President's gold medal and cash prize of Rs. 50,000 to the producer and Rs. 25,000 and a plaque to the Director. The second best feature film gets a cash prize of Rs. 15,000 and a medal to the producer and Rs. 5,000 and plaque to the Director. The best feature film on national integration gets a cash prize of Rs. 30,000 and a medal to the producer and a cash prize of Rs. 15,000 and a plaque to the director. Each producer and director of a winner of a regional film get a cash prize of Rs. 5,000 and medal respectively.

The object of these awards is to encourage the production of films of high aesthetic and technical and of social, educational and cultural value.

National Professors—This post was created in 1948: The National Professorship carries a salary of Rs. 2,500 per month for life. It has been created to help the holders devote their entire energy to research work.

National Awards for Teachers—are given to teachers in recognition of the meritorious services rendered by them to the community and are announced on September 5 (the birth day of Dr. S. Radhakrishnan) each year, which is celebrated as "Teachers Day" all over India. Each recipient of the Award is given a Certificate of Merit and Rs. 500 in cash.

Krishi Pandit—this title is given annually by the Indian Council of Agricultural Research to farmers who have made notable contribution for the cause of Indian agriculture.

Gopal Ratna—This was instituted in 1955 by the Government of India and is awarded to the owners of the highest milk-yielding cows and buffaloes of certain breeds in All-India Milk Yielding Competition. Owners of each breed of cattle, besides the title of Gopal Ratna get cash prizes of Rs. 2,000 each.

Emeritus Scientists—The title is awarded by the Council of Scientific and Industrial Research and carries with it a salary of Rs. 1,000 per month for five years and the option to work in any institution of the country.

Watumull Awards—instituted in memory of Dr. G.J. Watumull, an Indian immigrant to

Honolulu, are awarded since 1960 for outstanding post-doctoral work in different fields of science, humanity and culture which promote international understanding.

Bharaitya Jnanpith Prize—This prize of Rs. 1,00,000 is awarded each year by above Trust to outstanding literatures in any Indian languages.

Dr. B.C. Roy Award—This annual prize at Rs. 50,000 together with a silver plaque is awarded By the trust for outstanding contribution in the fields of literature, medicine, philosophy etc.

PRESIDENT'S MEDALS

(Order of Precedence for Wearing)

1. Bharat Ratna ; 2. Param Vir Chakra ; 3. Ashoka Chakra ; 4. Param Vishisht Seva Medal ; 5. Maha Vir Chakra ; 6. Kirti Chakra ; 7. Ati Vishisht Seva Medal ; 8. Vir Chakra 9. Shaurya Chakra ; 10. President's Police and Fire Services Medal for Gallantry ; 11. Sena Nao-Sena Vayu Sena Medal, 1974 ; 12. Vishist Seva Medal ; 13. The Police Medal for Gallantry ; 14. The General Service Medal, 1974 ; 15. Sainya Seva Medal ; 16. Videsh Seva Medal ; 17. The President's Police and Fire Service Medal for Distinguished Service ; 18. The Meritorious Service Medal ; 19. The Long Service and Good Conduct Medal ; 20. The Police Medal for Meritorious Service ; 21. The Territorial Army Decoration ; 22. The Indian Independence Medal, 1947 ; 23. The Independence Medal, 1950 ; 24. Commonwealth Award ; 25. Other Awards :

BHARAT RATNA

- | | |
|-------------------------------|------------------------------|
| 1954— C. Rajagopalachari | 1963— Dr. Zakir Hussain |
| Dr. S. Radhakrishnan | Dr. P. V. Kane |
| Dr. C. V. Raman | 1966— Lal Bahadur Shastri |
| 1955— Dr. Bhagwan Das | 1971— Sm. Indira Gandhi |
| Dr. M. Visvesvaraya | 1975— V. V. Giri |
| Jawaharlal Nehru | 1976— K. K. Kamraj |
| 1957— Pt. Govind Ballabh Pant | (Posthumous) |
| (Posthumous) | 1980— Mother Teresa |
| 1958— Dr. D. K. Karve | 1983— Acharya Vinobha Bhave |
| 1961— Dr. B. C. Roy | 1987— Khan Abdul Gaffar Khan |
| Purushottamdas Tandon | 1988— M. G. Ramchandran. |
| 1962— Dr. Rajendra Prasad | |

PARAM VIR CHAKRA

- | | |
|---|---|
| Major Somnath Sharma, Kumaon Regiment (Posthumous) Ladakh operations 1947 | Maj. Shaitan Singh, Kumaon Regiment (Posthumous), Ladakh, 1962. |
| 2nd Lt R.R. Rane. Corps of Engineers, Kashmir Operation, 1948. | COMH Abdul Hamid, Grenadier (posthumous), Operations against Pakistan, 1965. |
| Com. Hav. Major Piru Singh, Rajputana Rifles, (Posthumous) Kashmir Operations, 1948 | Lt. Col. A.B. Tarapore, Armoured Corps (Posthumous), against Pakistan, 1965. |
| L/Nk. Karam Singh, Sikh Regiment, Kashmir Operation, 1948 | Maj. Hoshiar Singh, Grenadier, Operations against Pakistan, 1971. |
| Naik Jadunath Singh, Rajput Regiment (Posthumous), Kashmir Operations, 1948. | Second Lt. Arun Khetarpa, (Posthumous), Operations against Pakistan 1971. |
| Cap. G.S. Salaria, Gorkha Rifles (Posthumous), Congo, 1961. | Lance Naik Albert Ekka, Guards (Posthumous), Operations against Pakistan, 1971. |
| Maj. Dhan Singh Thapa, Gorkha | |

Rifles, Ladakh, 1962.
Subedar Joginder Singh, Sikh Regiment, Arunachal Pradesh, 1962.

Flying Officer Nirmaljit Singh Sekhon (Posthumous), Operations against Pakistan, 1971.

REPUBLIC DAY AWARDS, 1990

Padma Vibhushan : Dr. Avul Pakir Jainulabdeen Abdul Kalam (space and missile technology), Hyderabad; Dr. Bhabatosh Datta (education—economics), Calcutta; Semmangudi Radhakrishniyer Srinivasaiyer (Carnatic music—vocal), Madras; Shivputta Sidhram Komkali alis Kumar Gandharv (Hindustani classical music—vocal), Dewas; Mr. T.N. Chaturvedi (public affairs), New Delhi; Dr. Vallampadugai Srinivasa Radhavan Arunachalam (metallurgical and technological research), New Delhi.

Padma Bhushan :

Mr. Arun Shourie (journalist), New Delhi;
Dr. Bal Krishna Goyal (cardiology), Bombay

Prof. Bimal Krishna Matilal (education) philosophy, Oxford, U.K.

Prof. Bimal Kumar Bachhawat (scientific research—biochemistry), New Delhi.

Mr. Closepet Daappa Narasimaiah (literature—English), Mysore;

Mr. Dhandapani Desigar (literature—Tamil), Thanjavur;

Mr. Hirendranath Mukherjee (literature—English and Bengali), Calcutta;

Mr. Inder Mohan (social work), Delhi.

Padhit Jasraj (Indian Classical Music—vocal), Bombay;

Mr Julius Silverman (public life), London;

Mr. Kunwar Singh Negi (literature—Braille), Dehradun;

Dr. Laxmangudi Krishnamurthy Doraiswamy (scientific research—chemical engineering), Pune;

Dr. Malur Ramaswamy Srinivasan (nuclear technology), Bombay;

Dr. Madumbai Seshachelu Narasimhan (mathematics), Bombay;

Dr. Marthanda Varma Sankaran Valiathan (cardiac surgery), Trivandrum;

Dr. Mohammad Khalilullah (cardiology), New Delhi.

Mr. Narasimhan Ram (journalism), Madras;

Mr. Nikhil Chakravarty (journalism), New Delhi.

Pandit Nikhil Ghosh (instrumental music—tabla), Bombay;

Mr Purshottam Laxman Despande (drama), Pune;

Dr. Rajanikant Shankar Arole (social work), Ahmednagar;

Mr. Ramnath Malhotra (public affairs), Bombay;

Late S. Moolgaokar (industry—Production of commercial vehicles), Bombay;

Dr. Sukumar Sen (literature—linguistics), Calcutta;

Dr. Trilochan Pradhan (education—physics and Mathematics), Bhubaneswar

Padma Shri :

Mr. Achut Madhav Gokhale (civil service), New Delhi;

Dr. Agashe Mohan Mahadeo (stage acting), Pune,

Allu Ramalingayya (film acting—Telugu), Madras;

Prof Anjan Kumar Banerjee (Journalism), Varanasi

Mr. Anutosh Datta (eye surgery), Calcutta;

Guru Aribam Surchand Sharma (literature—Manipuri), Imphal;

Smt. Asgari Bai (vocal music—dhrupad), Tikamgarh;

Dr. Ashin Dasgupta (education—history), Calcutta;

Dr. Ashok C. Shroff (Ophthalmology), Bombay;

Pt Balwantrai Bhatta (Hindustani Classical music—vocal), Varanasi;

Mr. Banda Vasudev Rao (poultry farming), Pune;

Mr. Barjinder Singh (Journalism), Jalandhar;

Mr. Behram Contractor alis Busybee (journalism), Bombay;

Mr. Bishamber Khanna (painting), New Delhi;

Ms. Chandra Prabha Aitwal (mountaineering and trekking), Uttarkashi;

Mr. Chavaly Srinivasa Sastry (civil service), New Delhi;

Mr. Dagadu Maruti Pawar alias Daya Pawar (literature — Marathi), Bombay;

Mr. Dinakarrao Govindarao Pawar (agriculture), Pune;

Smt. Diwaliben punjabhai Phill (folk songs), Junagarh;

Prof. Dr. (Mrs.) Gisela Bonn (promotion of Indo-German friendship), Stuttgart;

Prof. Gopi Chand Narang (literature and education—Urdu), New Delhi.

Govindan Nair Aravindan (film direction—Malayalam), Trivandrum;

Smt. Gulab Bai (folk music), Kanpur;

Mr. Gulshan Rai (yachmanship), Bombay;

Mr. Inder Sharma (tourism), New Delhi.

Mr. Ishwarbhai Jivram Patel (social work), Mehasana;

Mr. Jagdish Mittal (painting), Hyderabad;

Mr. Jaman Lal Sharma (hockey), Lucknow;

Mr. Jatish Chandra Bhattacharyya (space technology), Hyderabad;

Kamal Hasan (film acting), Madras;

Dr. (Smt.) Kanak Rele (classical dance), Bombay;

Mr. Kanhaiya Lal Misra 'Prabhakar' (literature — Hindi), Saharanpur;

Dr. (Smt.) Kaipil Vatsyayan (Promotion of art) New Delhi.

Mr. Kisan Baburao Hazare (social work—rural development), Ahmednagar;

Mr. Krishen Khanna (painting), New Delhi.

Mr. Laurie Baker (architecture), Trivandrum;

Smt. Leela Samson (dance — Bharatanatyam), New Delhi.

Dr. Muthukumarasamy Aram (education), Coimbatore;

Madurai Ponnusamy Natesan Sethuraman (instrumental Music — nadhaswaram), Madurai;

Mr. Madhav Gadkari (Journalism), Bombay;

Dr. Madhav Gajanan Deo (medical research), Bombay;

Dr. M. Krishna Bhargava (medicine), Bangalore;

Mr. Madhavan Pillai Ramakrishna Kurup (space technology), Sriharikota;

Madhavi Mudgal (dance— odissi), New Delhi.

Maharajapuram Santhanam (Carnatic music—vocal), Madras;

Mr. Md. Swaleh Ansari (industry — handloom), Varanasi;

Mr. Nilmani Phookan (literature — Assamese), Guwahati;

Dr. Noshir Hormasji Antia (plastic surgery), Bombay;

Om Puri (stage and film acting), Bombay;

Dr. Pylore Krishnaier Rajagopalan (medical research), Pondicherry;

Dr. (Smt.) Prabha Atre (classical music — vocal), Bombay;

Pradip Kumar Banerjee (football), Calcutta;

Prem Chand (body building), Gurdaspur;

Mr. Radha Mohan Gadanayak (literature — oriya), Dhenkanal;

Mr. Raj Biasaria (modern theatre), Lucknow;

Dr. Rajinder Singh (typewriting), Simla;

Mr. Ram Narain Agarwal (space technology), Hyderabad;

Prof. Ram Nath Shastri (literature — Dogri), Jammu;

Smt. Renana Jhabwala (social work), Ahmedabad;

Dr. Shanmugam Kameswaran (ENT surgery), Madras;

Mr. Sard Joshi (journalism), Bombay;

Sattanatha Muthu Ganapathy Sthapathy (sculpture and architecture), Secunderabad;

Dr. Shriniwas (microbiology), New Delhi.

Dr. Shyam Singh Shashi (literature — Hindi and English), New Delhi;

Miss Silverine Swer (social work), Shillong;

Mr. Taranath N. Shenoy (swimming), Bombay;

Mr. Tarun Majumdar (film making), Calcutta;

Mr. Vijay Kumar Chopra (journalism), Jalandhar;

Mr. Yashpal Jain (Literature — Hindi), New Delhi.

Param Vishisht Seva Medal :

Lt. Gen Gurinder Singh, AVSM, Armoured Corps. Lt. Gen. Faridoon Noshir Bilimoria, Infantry, Lt. Gen. Hanut Singh, MVC, Armoured Corps ; Lt. Gen. Gurdial Singh Grewal, Armoured Corps. Lt. Gen. Kuldeep Singh Khajuria, Armoured Corps, Lt. Gen. Vijai Singh, Armoured Corps, Lt. Gen. Naresh Pal Singh Bal, Infantry.

Lt. Gen Jagmohan Singh Rawat, VSM, Infantry, Lt. Gen. Ram Kumar Gaur, Infantry, Lt. Gen. Gorakhnath, AVSM, Army Service Corps, Lt. Gen. Harbans Lal, VSM, Electrical and Mechanical Engineering (retd), Lt. Gen. Suraj Prakash, Army Medical Corps, Maj. Gen. Vinod Badhwar, VSM, Infantry, Vice-Admiral Surendra Prakash Govin, AVSM, Vice-Admiral Heathwood Johnson, VSM Air Marshal Gandharva Sen, AVSM, VM Flying (pilot) (retd), Air Marshal Raj Kumar Nehra, VSM, Aeronautical Engineering (Mechanical), Air Marshal Har Krishan Oberai, AVSM, VM, Flying (pilot), Air Vice Marshal Brijesh Dhar Jajal, AVSM, VM and Bar flying (pilot).

Maha Vir Chakra :

2/Lt. Rajeev Sandhu, 7 Assam (posthumous).

Kirti Chakra :

Kedamath of Punjab, Chageman Golak Behari Patnaik (posthumous), OEM Kanshi Ram (posthumous), OEM Gopinathan Pillai (posthumous), OEM Abhimanu.

Uttam Yudh Seva Medal :

Maj. Gen. Jameel Mahmood, Artillery, Brig. Samay Ram, VSM Infantry, Brig. Loganathan Rangaswamy, Mechanised Infantry, Brig. Kamal Dhari Sinha, Infantry, Brig. Dinesh Singh Chauhan, Infantry, Brig. Shivaji Shripati Patil, Infantry, Commodore Sushil Kumar, NM.

Ati Vishisht Seva Medal :

Lt. Gen. Ajab Singh Bhullar, EME, Maj. Gen. Mohinder Jit Singh Chhatwal, Infantry (retired), Maj. Gen. Gian Singh Bains, Signals,

Maj. Gen. Jawaleshwari Pratap, Army Service Corps (posthumous), Maj. Gen. Chengapa Samuel, Infantry (posthumous), Maj. Gen. Ananta Bhanu Gorthi, VSM, Jag's Dept. Maj. Gen. Jagjit Singh Herr, Artillery (retd), Brig. Palande Kashinath Manajirao, Infantry, Brig. Mohan Lal Sapra, VSM, Army Medical Corps., Brig. Ravi Eipe, Infantry, Brig. Bhupal Singh Malik, Infantry, Brig. Frank Framroz Bulsara, Infantry, Rear Admiral Prakash Narayan Gour, Rear Admiral Avinash Chandra Bhatia.

Rear Admiral Sounirajulu Ramsagar, VRC, NM, Rear Admiral Keki Pestonji, NM, Commodore Ramlal Gulshan Kumar, Commodore Ravinder Sikka, Commodore Surinder Singh Bawa, Capt. Madhvendra Singh, Indian Navy, Air Vice Marshal: Sudhur Rajaram Karkare Flying (Navigator). Air Vice Marshal Ranjit Singh Bedi, VM, flying (pilot), Air Commodore Lawarance Aloysious Menezes, VM, flying (pilot), (retd), Air Commodore Satish Kumar Sareen, VM, Flying (pilot), Air Commodore Ajai Kumar Brahmavar, VM, flying (pilot), Air Commodore Subhash Chander Madan, VSM, Aeronautical Engineering (electronics), Air Commodore Chitta Ranjan Ghosh, VM, flying (pilot), Gp. Capt. Sham Rao, VSM, Accounts, Gp. Capt. Ammarjeet Singh Sodhi, Aeronautical Engineering (mechanical); Gp. Capt. Ghitatoor Doraiswamy Chandrasekhar, VM, flying (pilot).

Bar to Ati Vishisht Seva Medal

Brig. Satish Chander Kashyap, AVSM, 11 Garhwal Rifles.

Vir Chakra :

Maj. Surinder Singh, 16 Raj Rif. (posthumous). Capt. Ravinder Singh Chopra, 7 Madras, Capt. Kavil Adhikharkunneth Mohan, 9 Parachute Commando, 2/Lt. Amardeep Singh Bedi,

Engineers (posthumous), Sub. Maria Russel, 5 Madras, Naib Subedar Madan Lal, 1 Parachute Commando (posthumous), Hav. Rup Lal, 3 Punjab, Hav. Prem Kumar Chauhan

5 Rajputana Rifles, Hav Swaran Singh, 11 Jammu and Kashmir Light Infantry, Hav. Shanmuga Sundaram, 5 Madras, Hav. Bhim Bahadur Thapa, 1, Gorkha Rifles (posthumous), Hav. Ajit Singh, 10 Para Commando (posthumous), L/Hav. Arun Ramling Mali, 2 Maratha Light Infantry, L/Hav. Bishnu Bahadur Thapa, Assam (posthumous), Nk Sukhdev Singh, 9 Parachute Commando (posthumous), Nk. Mahavir Singh, 7 Rajputana Rifles (posthumous), Nk. Ranjeet Singh, 5 Para (posthumous), Nk. Shridhar Vithal Kurankar, 18 Garhwal Rifles (posthumous), L/Nk Jangbir Singh, 4 Garhwal Rifles (posthumous), L/Nk Kumar Singh Gurung, 6/8 Gorkha Rifles (posthumous), Sep Dharajit Singh Chahar, 4 Jat (posthumous), Sep Rabi Kumar Debbarma, 4 Assam (posthumous), Sep John Britto Kiro, 9 Bihar (posthumous), Rfn. Kuldip Singh, 11 Garhwal Rifles (posthumous), Wg. Cdr. Krishan Kumar Yadav, flying (pilot), Wg Cdr Dhrendra Nath Sahae, flying (pilot), Flt. Lt. Manavendra Singh, flying (pilot). Flt. Lt. Atanu Guru, flying (pilot).

Shaurya Chakar :

Buta Ram of Punjab, Mukhtiar Ahmed of Uttar Pradesh (posthumous), Kumari Monisha Verma of Delhi, Dipendra Nath Roy of West Bengal (posthumous), Dungar Ram Gatiyala of Rajasthan (posthumous), Jaguram of Rajasthan (posthumous), Anath Bhattacharjee of West Bengal, Bhusan Battacharjee of West Bengal, Driver Mechanical Equipment Prem Singh Verma, Driller Jas Ram (posthumous). L/Nk OEM Bakshish Singh, Pioneer Uthaman (posthumous), Maj Rajendra Pratap Singh, Bihar Regt. (posthumous), Hav. Dalwara Singh, 3 Mahar Regiment (posthumous), L/Nk Bir Bahadur Chhetri, 9 Gorkha Rifles, Sep Hira. Ballabh

Nagarkoti, 20 Kumaon (posthumous), Sapper Mahipal Singh Engineers (posthumous), Sowar Ritu Raj Pandey, Armoured Corps, Wg. Cdr. Chakuri Mohan Rao, flying (pilot) Lt. Uday Kumar Sondhi, (pilot), Sgt. Lakshman Prasad Swamy, air-frame fitter (posthumous).

SAHITYA AKADEMI AWARDS, 1989

Assamese : Assamiya Jatiya Jiwanaat Maha purushiva Parampara (collection of essays) by Hiren Gohain ; Bengali : Manab Zamin (novel) by Sirhendu Mukherjee ; Dogri : Sodh Samunderin Di (Poems) by Mohan Lal Sapolia ; English : The Shadow Lines by Anitaabha Ghosh ; Gujarati : Angaliat (navel) by Joseph Mecwan ; Hindi : Akal Main Saaras (Poems) by Kedarnath Singh ; Kannada : Samprati (letters) by H.M. Nayak ; Kashmiri : Sheen Tewatpoud (novel) by Pran Kishore ; Konkoni : Sashyache kan (poems) by C.F.D. Casta ; Maithili : Parashar (epic) by Late Kanchinath Jha ; Malayalam : Nizhalaana (Collection of poems) by Olappamanna ; Manipuri : Tatkhraha Puni Leipul (Short Stories) by Nilbir Sharma Shastri ; Marathi : Haravele Diwas (Autobiography) by Prabhakar Urdhwareshe ; Nepali : Karna Kunti (epic) by Tulasi Bahadur Chhetri ; Oriya : Nai Aara Pari (poems) by Bharuji Rao ; Punjabi : Kahkahan (Poems) by Tara Singh Kamal ; Rajasthani : Jamaro (short stories) by Yadvendra Sharma ; Sanskrit : Sandhya (poems) by Rama Karan Shanma ; Sindhi : Bahi Ja Warse (Poems) by M. Kamal ; Tamil : Chinda Nadhi (Autobiographical essays) by Ramamurutham ; Telugu : Mani Paravalamu (essays) by S.V. Jaga Rao ; Urdu : Baaz Goyu (Short Stories) by Surinder Prakash.

RABINDRA MEMORIAL PRIZE

- 1950—Dr. Nihar Ranjan Ray (Bangalir Itihas : Adi Parba), Satinath Bhaduri (Jagori).
- 1951—Jogesh Chandra Ray (Ancient Indian Life).
Bibhui Bhusan Banerjee (Ichhamati).
- 1952—Brojendranath Banerjee (Sambad Patre Sekaler Katha, Bangala Samayik Patra, Sahitya Sadhak charitamala, etc.)
Dr. Kali Pada Biswas and Ekkari Ghosh (Bharater Banausadhi)
- 1953—Dinesh Chandra Bhattacharjee (Bange Nabyanyaya Charcha).
- 1954—Mrs. Rani Chanda (Purna Kumbha).
- 1955—Rajsekhar Bose (Krishnakali).
Tarasankar Banerjee (Arogya Niketan).
- 1956—Samarendra Nath Sen (Vijnaner Itihas : Vol 1).
- 1957—Pravat Kumar Mukherjee (Rabindra Jibani)
Dr. R.C. Majumdar (The History and Culture of the Indian People).
- 1958—Premendra Mitra (Sagar Theke Fera).
Benoy Ghosh (Paschim Banger Sanskriti)
Dr. Suniti Kr. Chatterjee (Literature Mediavali E. Modern Del Sub Continent Indiano—in Italian).
- 1959—Upendranath Bhattacharya (Banglar Baul O Baul Gan).
Haridas Mukherjee and Mrs. Uma Mukherjee (Origin of the National Education Movement)
- 1960—Pramatha Nath Bishi (Carey Saheber Munshi).
Radhagovinda Nath (Gaudiya Vaishnava Darshan).
- 1961—Haridas Siddhantabhaish (Mahabharat).
Swami Prajnanananda (Historical Development of India Music).
- 1962—Balaichand Mukherjee (Banaful) (Hate Bazare), Jitendra Nath Banerjee (Panchopa sana).
- 1963—Subodh K. Chakravarti (Rammani Bikshya). Suresh Chandra Banerjee (Smriti Sastre Bengali)
- 1964—Bimal Mitra (Kori Diye Kinlam). Dr. Mrityunjay Prasad Guha (Akash-O-Prithibi).
Sankarnath Roy (Bharter Sadhok).
- 1965—Gajendra Kumar Mitra (Pous Phaguner Pala). Dr. Sukumar Sen (Bharatiya Sahityer Itihas).
Dr. Sachindra Nath Bose (Pragaitihaser Manush).
- 1966—Smt. Ashapurna Devi (Pratham Pratishruti).
Shanti Ranjan Bhattacharya (Bengali Hindi Kaurdu Khidmat).
Anirban (Veda Mimansa).
- 1967—Saradindu Bandopadhyaya (Tungabhadrar Terey)
Kalikaranjan Kannungo (Rajasthanar Kahini).
Dr. Pravas Jiban Chowdhury (Tagore on Literature and Aesthetics).
- 1968—Kalidas Roy (Purnahuti).
Sukumar Basu (Himalaya)
Dr. Charu Chandra Sanyal (The Rajbanshi of North Bengal).
- 1969—Smt. Lila Majumdar (Ar-Kono-Khane).
Narayan Sanyal (Aparupa Ajanata)
Gopendra Krishna Bose (Banglar Laukik Devata).
- 1970—Abu Syed Ayub (Adunikata O Rabindranath).
Smt. Vera Novikova (Bankimchandra : Tar Jivan O Sristi).
Nanimadhab Chowdhury (Bhartabarsher Adhibasi Parichaya).
Devendra Nath Biswas (Manab Kalyane Rashayan).
- 1971—Ramapada Chowdhury (Ekhan).
Jitendra Kumar Guha (Mahaka li Parichaya).
Shankar Sengupta (A study of Woman in Bengali).

- 1972—Bibhuti Bhushan Mukherjee (Eber Priyangbada).
Indra Mitra (Aurobinda Guha) (Karunasagar Vidyasagar).
Paresh Chandra Mazumdar (Sanskriti-O-Prakriti Bhasar Karmabiksha).
- 1973—Smt. Jyotirmayee Devi (Sona Rupa Nay)
Dr. Bhakti Prosad Mullick (Aparadh Jagater Bhasa and Aparadh Jagate Sabdakosh).
Dr. Amalendu Mitra (Rarher Sansriti)
David Melutchoin (Late Mediaeval Temples of Bengal)
- 1974—Buddhadev Bose (Swagta Vidya)
Enakshi Chatterjee and Shantimoy Chatterjee (Paramanu Jijnasa) and
Dinesh Chandra Bhattacharya (Prachin Bharatiya Monovidya)
Sukumar Roy (Music of Eastern India) and
Arun Roy (German translation of Short Stories of India and Bangladesh)
- 1975—Achintya Kumar Sengupta (Uttarayan).
Gopal Chandra Bhattacharya (Banglar Kit-Patanga)
- 1976—Satikanta Guha (Natyakar)
Arupratan Bhattacharya (Prachin Bharater Jyotirbijnan).
Dr. Sisir Kumar Das (The Shadow of the Cross : Christianity and Hinduism in a colonial Situation) and Nilmani Mukherjee (Bengal Zamindar : Jayakrishna Mukherjee of Uttarpara and his time.)
- 1978—Nepal Chandra Majumdar (Bharate Jatiota O Antarjatikata O Rabindranath).
Dr. Dawson Javiden (History of Bengali Literature)
- 1979—Arun Mitra (Sudhu Rater Shabda Nai).
G.H. Forbes (Positivism in Bengal).
Shibakali Bhattacharya (Chiranjib Banasudhi).
- 1980—Gopal Haldar (Rupnarayaner Kulay).
Dr. Tarak Mohan Das (Prithibi Ki Sudhu Manuser Janya).
- 1981—Sushovon Sarkar (Bengal Renaissance).
Binode Behari Mukhopadhyaya (Chitrakar).
- 1982—Birendra Chattopadhyaya (Srestho Kabita).
- 1983—Dinesh Das (Ram Gelo Banabasey) and Sankarsan Roy (Bhutatwikher Chokhey Paschimbangla).
- 1984—Nanda Gopal Sen Gupta (Bastubadir Bharat Jijnasa).
Dilip Biswas (Ram Mohan Samikha).
Amal Kr. Banerjee (Medical Abhidhan), Sunil Kr. Mukherjee (Story of Calcutta Theatre from 1753 to 1940).
- 1985—Sukhamoy Bhattacharjee (Bengali Literature), Amiya K. Hati (Science), Sudhi Pradhan.
- 1986—Radharani Devi (Aparajita Rachanabali),
S. Krishnamurthi (Nazrul Enroni Manidan-Tamil), Dr. Sachindra Nath Sahana (Science).
- 1987—Dr. Ramen Majumdar (Sukhasane Sukhahar), Ramendra Kumar Acharya Chaudhury (Brahma O Putir Mouri).
- 1988—Sanjida Khatun (Dhani Theke Kabita),
Nishit Ranjan Roy (Calcutta : The profile of a city), Dharendra Nath Ganopadhyay (Kaishor-O-tar Samasya).
- 1989—Sanxha Ghosh (Dhum Legechhe Hrikamala),
Ram Basu (Ek Guchha Kabyanatya),
Tapan Roychoudhuri (Europe Reconsidered, Bhabani Prasad Sau (Sura Sarir Sarbanasha).

BHARATIYA JNANPITH AWARD

- 1965—G. Shankara Kurup for his book of poems "Odakuzhar" (Malayalam)
- 1966—Tarasankar Bondopadhyay for his novel, "Ganadevata" (Bengali)
- 1967—Umashankar Joshi for his book of Poems, "Nisheeth" (Gujrathi) and K.V. Puttappa for his epic, "Ramayana Darshanam" (Kanada).
- 1968—Sumitranandan Pant for his Collection of Poems, "Chidamabara", (Hindi).
- 1969—Raghupati Sahai "Firaq" (popularly known as Firaq Gorakhpuri) for his collection of "Gul-E-Naghma" (Urdu)
- 1970—Dr. Viswanath Satyanarayana for his epic "Sreemad Ramayana Kalpavrikshamu" (Sri Ramayana Kalpavrikshamu) (Telugu).
- 1971—Bishnu De for his book of poems "Smriti Satta Bhabishyat" (Bengali).
- 1972—Ramdhari Singh Dinkar for his Poetic drama "Urvashi" (Hindi)
- 1973—Dr. Dattatreya Ramchandra Bendre for his collection of poems "Naku Tanthi" (Kanada) and Gopinath Mohanty for his novel "Mati Matal" (Oriya)
- 1974—Vishnu Saktharam Khandelkar (Marathi)
- 1975—P.D. Alikananda (Tamil)
- 1976—Smt. Ashapura Devi for her novel "Pratham Pratiruti" (Bengali).
- 1977—K. Shivaramana Karantha for his novel "Mukajaiza Kaneugalu" (Kanada).
- 1978—Sachindra Vatsyayan "Ajneya" for his book of poems "Kitai Navon Men Kithi Bsr" (Hindi)
- 1979—Birendra Kumar Bhattacharyo for his novel "Mrityunjaya" (Assamese)
- 1980—S.K. Pottekkat for his novel "Oru Desattine Katha" (Malayalam).
- 1981—Amrita Pritam for "Kagajte Kawas" (Punjab)
- 1982—Mahadevi Verma for "Yama" (Hindi).
- 1983—Masti Venkatesh Iyengar for "Chikkaveera Rajindra" (Kanada) Thakahi Shibshankar Pillai (Malayalam).
- 1984—Thakazhi Sivasankar Pillai (Malayalam)
- 1985—Pranlal Patel (Gujrati)
- 1986—Satchidananda Routroy (Orissa)
- 1987—V.V. Shirwadakar (Marathi)
- 1988—Dr. C. Narayana Reddy (Telugu)

JAWAHARLAL NEHRU AWARD FOR INTERNATIONAL UNDERSTANDING

- 1965—U. Thant.
- 1966—Dr. Martin Luther King (Posthumous).
- 1967—Khan Abdul Gaffar Khan
- 1968—Yehudi Manuhin.
- 1969—Mother Teresa.
- 1970—Kenneth Kaunda.
- 1971—President Josip Broz Tito
- 1972—Andre Malraux
- 1973—Dr. Julius K. Nyerere
- 1974—Dr. Rane Prebisch.
- 1975—Dr. Jonas Salk
- 1976—Dr. Giuseppe Tucci
- 1977—Tulsi Mehraji Shrestha
- 1978—T. Fuji.
- 1979—Nelson R. Mandela
- 1980—Mrs. Barbara Ward
- 1981—Prof Gunnar Myrdal and Mrs. Alva Myrdal
- 1983—Bruno Kreisky
- 1984—Indira Gandhi.
- 1985—Olof Palme (Posthumous)
- 1987—Javier Perez de Cuellar.
- 1988—Yasser Arafat

PRESIDENTS GOLD MEDAL WINNERS (FILM)

- 1953—Shyamchi Ali (P.K. Atre—Marathi).
 1954—Mirza Ghalib (Sohrab Modi—Hindi).
 1955—Pather Panchali (Satyajit Ray—Bengali).
 1956—Kabuliwala (Tapan Sinha—Bengali).
 1957—Do Ankhen Bara Haath (V. Shantaram—Hindi).
 1958—Sagar Sangame (Debaki Kumar Bose—Bengali).
 1959—Apur Sansar (Satyajit Ray—Bengali).
 1960—Anuradha (Hrishikesh Mukherjee—Hindi).
 1961—Bhagini Nivedita (Bejoy Bose—Bengali).
 1962—Dada Thakur (Sudhir Mukherjee—Bengali).
 1963—Shehar Aur Sapna (K.A. Abbas—Hindi).
 1964—Charulata (Satyajit Roy—Bengali).
 1965—Chemmeen (Ramji Kari—Malayalam).
 1966—Teesri Kasam (Basu Bhattacharya—Hindi).
 1967—Hatey Bazare (Tapan Sinha—Bengali).
 1968—Goopy Gyne Bagha Byen (Satyajit Ray—Bengali).
 1969—Bhuban Shome (Mrinal Sen—Hindi).
 1970—Samskara (T.P. Rama Reddy—Kannada).
 1971—Simabaddha (Satyajit Ray—Bengali).
 1972—Swayamavaram (Adoor Gopalakrishna—Malayalam).
 1973—Nirmalyam (Malayalam).
 1974—Chorus (Mrinal Sen—Bengali).
 1975—Chomana Dudi (B.V. Karnath—Kannada).
 1976—Mrigaya (Mrinal Sen—Hindi).
 1977—Ghatashraddha (Girish Keshav Bhalla—Kannada).
 1978—No award.
 1979—Shodh (Biplab Raychowdhury—Hindi).
 1980—Akaler Sandhane (Mrinal Sen—Bengali).
 1981—Dakhal (Goutam Ghosh—Bengali).
 1982—Chokh (Utpalendu Chakravorty—Bengali).
 1983—Adi Sankaracharya (G.V. Iyer—Sanskrit).
 1984—Damul (Prakash Jha—Hindi).
 1985—Chidambaram (G. Arvindam—Malayalam).
 1987—Halodia Choraye Baodhan Khai (Jahnu Barua—Assamese).
 1988—Piravi (Shaji N. Karun—Malayalam).

DADA SAHEB PHALKE AWARD

- 1969—Devika Rani.
 1970—B. N. Sarkar.
 1971—Prithviraj Kapoor.
 1972—Pankaj Mullick.
 1973—Sulochana.
 1974—B.N. Reddy.
 1975—Dhiren Ganguly.
 1976—Kanan Devi.
 1977—Nitin Bose.
 1978—R.C. Boral.
 1979—Shorab Modi.
 1980—P. Jairaj.
 1981—Naushad Ali.
 1982—L.V. Prasad.
 1983—Durga Khote.
 1984—Satyajit Ray.
 1985—V. Shantaram.
 1986—B. Nagi Reddy.
 1987—Raj Kapoor.
 1988—Ashok Kumar.

India in World Affairs 1989

Embittered relations with Nepal and Sri Lanka overshadowed India's success in foreign policy in 1989 in the shape of blossoming relationship with the Super Powers, Japan and Western Europe.

The last Indian contingent of more than 100 troops withdrew from the Maldives on November 4. Mr. Rajiv Gandhi became the first Indian Prime Minister to visit Pakistan in 30 years and also succeeded in creating a new atmosphere in Sino-Indian relations.

But the new National front Government inherited a legacy of tense relationship with Sri Lanka and Nepal. The remaining 25000 Indian troops are in the process of deinduction from the island nation.

To the detriment of bilateral relations, there has been no dialogue with Kathmandu since Mr. Gandhi met King Birendra of Nepal in Belgrade last September.

India's experience with democracy saw Moscow consulting New Delhi on the question of Centre State relations as it tackled Glasnost and Perestroika in its Republics.

India occupied the centre-stage at the Belgrade non-aligned summit as it worked for keeping the movement on its chartered course in the face of pressure for radical changes from host Yugoslavia and some other countries. India was re-elected chairman of the Africa Fund.

India and Soviet Union have created an unprecedented record of holding summit meetings every year. Mr. Gandhi's visit to Moscow in July contributed to expansion of economic ties.

The climate appears to be propitious for India and the United States to interact more closely especially in trade and hi-tech area, despite differences on issues such as super 301 trade restrictions and the American sale of F-16 fighter aircraft to Pakistan.

The President Mr. R. Venkataraman's meeting with the American President George Bush in Tokyo at the funeral of Emperor Hirohito and a series of visits to Washington by the Defence Minister, Finance Minister, Commerce Minister, Foreign Secretary and the chief of Naval Staff during 1989 showed positive trends in Indo-U.S. relations.

India's policy on Afghanistan, though a target of criticism by Pakistan and some other western countries proved to be a success in the long run.

The newly elected National Front Government is yet to pronounce its policy on the Afghan issue. Mr. V.P. Singh soon after taking over as Prime Minister, stated that Sri Lanka and Nepal would get priority in improving ties with neighbours.

Indian Events 1989

- January 1 — The fourth SAARC summit concludes.
- 2 — The street theatre artiste Mr. Safdar Hashmi, succumbs to injuries inflicted by assailants in Sahibabad (U.P.)
- 6 — Satwant Singh and Kehar Singh executed.
- 19 — Mr. Subhas Ghising, assumes office as chairman of the Darjeeling Gorkha Hill Council.
- 22 — DMK sweeps to power in Tamil Nadu.
- 23 — Congress MNF (D) alliance gains absolute majority in Mizoram.
The Madhya Pradesh Chief Minister Mr. Arjun Singh resigns following his indictment in the Churhat lottery case.
- 25 — Mr. Motilal Vora sworn in Chief Minister of Madhya Pradesh.
Mr. S.C. Jamir heads the Congress Ministry in Nagaland.
- February 2 — French President Francois Mitterand confers The Legion of Honour on Satyajit Ray in Calcutta.
- 3 — France offers help to build two N-Power Plants in India. French Festival in India inaugurated in Bombay.
- 8 — Prime Minister of Norway Mrs Gro Harlem Brundtland chosen for the 1988 Indira Gandhi Award for Peace, Disarmament and Development.

- Supreme Court rules that delayed disposal of condemned Prisoner's mercy petition either by President or Governor entitles him to move the court for commutation of Death Sentence.
 - 12 — AIADMK'S Janaki and Jayalalitha factions formally merge.
 - 14 — Bhopal Gas tragedy case settled in Supreme Court for 470 million dollars.
 - 15 — VCC to pay 425 million and its Indian subsidiary Rupee equivalent of 45 million.
 - 18 — India, Soviet Union finalise 4 joint ventures.
 - 24 — Ten persons killed, 100 injured in mob violence and police firing in Bombay during anti-Rushdie protests.
 - 26 — 18 persons killed, 92 injured in two different train mishaps in the country.
 - 27 — President confers the Jawaharlal Nehru award for 1987 on U.N. Secretary General Javier Perez De Cueller.
- March 3 — Government to release all Jodhpur detainees, except those facing serious charges, PM tells Parliament.
- 4 — Thousands participate in Nehru centenary run.
 - 5 — 125 people killed and over 200 affected by spurious liquor in Baroda.
 - 6 — 188 Punjab detainees released, 84 rearrested on other pending cases.
 - 9 — All Bodo Students Union (ABSU) sponsord 175-hour 'Assam Bandh' ends leaving 16 people dead.
 - 11 — Satyendra Narayan Sinha sworn-in as Bihar Chief Minister.
 - 16 — Opposition members in Parliament (except N.C. and AIADMK) boycott proceedings of both houses. Protesting Govt. refusal to table Thakkar Commission Report.
 - 25 — Special investigation team (SIT) says Indira Gandhi assassination was part of a larger plan to whip up communal tensions, hijack planes and blow up buildings. PM dedicates to the Nation first Super Computer to help weather forecasting.
 - 27 — Thakkar Commission Report tabled in Parliament. Meningitis claims 125 lives in Madhya Pradesh. Unofficial toll is over 300.
- April 7 — The special Investigation Team (SIT) chargesheets 5 more persons.
- 8 — Bombay city police arrests two professors named as co-conspirators by SIT.
 - 11 — Janata Dal recognised as a party in the Lok Sabha.
 - 13 — A financial cooperation agreement signed envisaging an FRG Loan of Rs. 312 crore to India.
 - 17 — Port and Dock workers strike work. Navy army called in to man the services.
 - 18 — 56 killed 120 injured as Delhi bound Karnataka Express derails between Lalitpur and Jhansi.
 - 21 — Home Minister Buta Singh announces dissolution of Karnataka assembly.
 - 22 — Post and Dock workers call off strike following agreement with Govt. on wage hike.
Boat club no longer to be used for rallies.
 - 28 — PM launches the Jawahar Rojgar Yojana.
- May 4 — PM assures 30 per cent reservation for women in Panchayati Raj bodies.
- 9 — Parliament approves extension of President's rule in Punjab.
 - 16 — Capital's junior doctors begin an indefinite strike.
 - 17 — 10 serving officials indicted by the Thakkar commission for security lapses to be chargesheeted.
 - 22 — 'AGNI' launched at Chandipur on sea, US, Pakistan express concern.
 - 25 — India to go for missile-based defence system. Defence Minister K.C. Pant says.
 - 26 — India reacts for being placed under 'super 301' clause of U S trade act.
 - 27 — 20 dead as cyclone hits West Bengal and Orissa.

- June 1 — Newspapers across the country slash paper hike prices in face of steep hike in Newsprint prices and its reported shortage.
- 5 — Trishul India's surface-to-surface missile successfully test-fired.
- 9 — Atinder Pal Singh, self-styled KLO-General, one of the 4 accused in the second Indira Gandhi assassination case, retracts his confession.
- 10 — India not to participate in negotiations on the 'Super 301'.
- 12 — Eight dead, 70 hurt in bomb blast at New Delhi.
- 16 — All political parties should register with the Election commission before August 14 : A new provision of the Representation of the People (Amendment) Act, 1988 says.
- 17 — Justice E.S. Venkataramiah appointed Chief Justice of India.
- 19 — India denies signing of an agreement with Pakistan on re-deployment of troops in Siachen area as per the 1972 positions.
- 20 — Launching of Insat -ID to be delayed as it is damaged during mating with Delta rocket at Kennedy Space Centre.
- 25 — 24 RSS workers were shot dead by terrorists during a meeting at Moga.
- 29 — 4 killed in Nagoan District as police fire on people protesting against the Election Commission's making 1966 as the cut off date for revision of Electoral rolls.
- 30 — Prime Minister said that IPKF would be withdrawn only when LTTE ceases hostilities towards Lankan Government and Tamils.
- July 1 — General KV Krishna Rao appointed J and K Governor. Chintamani Panigrahi — Manipur Governor, Gopal Singh — Nagaland, Sultan Singh — Tripura, Khurshid Alam Khan — Goa.
- Ratan Tata reappointed Air India Chairman, Rahul Bazaz as Indian Airlines Chief.
- 2 — Junior Doctors end 4-day old strike following agreement with Government.
- 3 — 3 die in police firing during Maharashtra bandh.
- 4 — Capt. W. A. Sangma appointed Mizoram Governor. A. A. Rahim appointed Meghalaya Governor.
- 6 — Assam State Govt. invokes the Assam Disturbed Areas Act 1955 and brings the violence hit Kokrajhar district under its purview.
- 8 — 45 passenger of a ferry feared dead as the boat capsizes on the swollen Ganga in Farukhabad district.
- 11 — Indo-Pak army delegations conclude two-day talks in the capital on Siachen.
- 17 — 42 killed and several villages cut off in Andhra Pradesh following heavy rains and Floods.
- 18 — CAG report tabled in Lok Sabha.
- 19 — Naviyot Singh Sidhu found innocent, charge of culpable homicide dropped.
- 23 — Army called out curfew clamped in Anantanag town following the theft of a Sufi relic from Srinagar.
- 24 — 73 opposition MPs quit Lok Sabha demanding PM's resignation following the CAG report on Bofors pay-offs.
- 25 — Over 750 people killed, in torrential rains in Maharashtra, Andhra Pradesh and other Southern States.
- 9 more MPs resign from Lok Sabha—total 82.
- 28 — India agrees to token IPKF Pullout from Sri Lanka.
- 31 — Rao Birendra Singh, former Union Agriculture Minister quits Congress Party and Lok Sabha.
- August 1 — Kirti Ambani arrested in an alleged plot to kill Nusli M Wadia, chairman of Bombay Dyeing.
- 4 — India, Sri Lanka fail to reach agreement on the two issues of — cessation of hostilities against the LTTE by the IPKF and the safety and security of the island's Tamils.

Karnataka High Court upholds central rule in Karnataka.

- 6 — Six top Indian cricketers Vengsarkar, Kapil Dev, Arun Lal, Ravi Shastri, Mohd. Azharuddin and Kiran More — barred from playing for one year for taking part without official sanction in exhibition matches after the tour of the West Indies. CBI takes charge of Ambani case.
- 10 — Lok Sabha unanimously passes the Panchayati Raj and Nagar Palika Bills.
- 11 — Strike paralyses work in Delhi banks.
- 12 — Arunachal Pradesh Police recovers 95 bodies of massacre victims at Gohpur in Assam.
- 15 — PM Rajiv Gandhi warns against destabilising forces in his Independence Day Speech.
- 18 — 15 killed in Bus bomb blast in Himachal Pradesh.
- 20 — Curfew clamped in Sasaram following violence.
- 21 — Terrorism related news to be barred in J and K, announces Dr. Forooq Abdullah.
- 23 — J and K state Assembly passes Press Control Bill.
- 25 — Supreme Court orders the Madhya Pradesh Government to pay Interim Relief to 7,687 Bhopal Gas Victims.
- 27 — Terrorists gun down 20 and injure 24 at Kabarwala Railway station on the Ganganagar Abohar Section.
- 28 — All Bodo Students Union (ABSU) agrees to suspend agitation.
- 30 — Twelve killed, several injured in the country during the opposition sponsored 'Bharat Bandh'

September 1 Yasser Arafat nominated for the Jawaharlal Nehru Award for International Understanding for 1988.

- 3 — Prime Minister Rajiv Gandhi dismisses as 'Not at all true' General Sunderji's charge that his office stalled efforts to find out the recipients of Bofors pay off.
- 7 — Shashikanta K. Parmar, charged with triple murder, hung at Rajkot.
- 8 — India, Sri Lanka reach accord on IPKF pull out.
— PM assures that no action would be taken against the former Army Chief Gen. K. Sundarji on the charge of having violated the official secrets act.
- 9 — Bodo extremists kill 30 people of an Assam village.
- 10 — The Bharatiya Kissan Union (BKU) calls off its 39 day-old agitation.
- 11 — New Delhi immigration staff discover racket of illegal export of minor children to Gulf countries.
- 28 — Indefinite curfew imposed in Badaun after violence in protest against the introduction of Urdu as second language leaves 8 dead and 50 injured.
- 29 — Badaun toll rises to 30.
- 30 — Indigenously built submarine INS 'Shalki' launched.

October 3 — The Supreme Court orders the arrest of all the five policemen in Nadiad lawyer mistreatment incident.

- 5 — A tripartite committee comprising representatives of the Central and Assam Govt. and the All Bodo Students Union (ABSU) to be set up to resolve the Bodo land problem.
Ms Meera Sahib Fathima Ben appointed the first woman Judge of the Supreme court.
- 8 — A Mirage 2000 crashes at the Air Force Day display killing the pilot and injuring 20 others.
- 9 — India seeks Swedish Govt's confirmation on the authenticity of the secret portions of audit report published in 'The Hindu'.
- 12 — Associate Editor of 'The Hindu' N. Ram says, Rajiv Govt. pressurising to stop Bofors expose.
- 13 — Panchayat and Nagar Palika Bills rejected by the Rajya Sabha.

- 15 — 20 killed in riots in Indore, unofficial sources put the toll at 30.
- 17 — The Election commission announces that elections to the 9th Lok Sabha to be held on November 22 and 24.
Elections to the state Assemblies of Andhra Pradesh, Sikkim and Goa to be held simultaneously.
- 18 — The Election Commission announces Assembly Poll to be held in Uttar Pradesh and Karnataka also.
- 19 — 'Hindu' workers on strike as its Associate Editor N. Ram is issued a show-cause notice and suspended.
- 20 — The National Front Manifesto promises a clean Govt. if voted to power.
- 21 — Suck Deo Singh and Harinder Singh, assassins of former Army chief Vaidya Sentenced to death while the third accused Nirmal Singh acquitted.
- 25 — Army called out in Bhagalpur as communal violence claims 19 lives.
- 26 — 7 killed in Munger as riots spread, toll from violence in different parts of Bihar rises to 53.
Rajmohan Gandhi to contest against PM Rajiv Gandhi as Janata Dal Candidate from Amethi.
- 31 — Opposition seeks PM's resignation, elections under caretaker Govt. demanded.

November 3 Religious rallies banned in Bihar.

- 4 — Processions and public meetings banned in Ayodhya.
- 6 — Indian cricketers Pakistan tour in jeopardy as players warn the board that they will boycott the tour if their charter of demands is not met.
- 9 — Foundation laying ceremony of Sir Ram Temple passes peacefully.
Indian cricket team leaves for Lahore.
- 10 — 16 students among 20 massacred by Terrorists at an engineering Institute hostel in Patiala.
- 13 — 73 miners trapped following subsidence at a coal mine at Raniganj in West Bengal.
- 18 — Riot hit Bhagalpur handed over to Army.
- 19 — Rajiv Gandhi announces a special scheme for women 'Indira Mahila Yajana.'
- 22 — 42 killed in poll violence as 200 million voters exercise their Right to franchise in first phase of Lok Sabha elections.
Sanjay Singh seriously injured in an attack near Amethi.
- 23 — Election Commission orders repolling in 578 stations 402 in Andhra Pradesh following reports of both capturing and violence.
- 24 — 30 killed in poll clashes.
- 25 — Election Commission announces repoll in 97 booths in Amethi and Jagadishpur Assembly segments of the Amethi Parliamentary constituency.
- 26 — CPN Singh, congress candidate from Padrauna Lok Sabha constituency shot dead
- 27 — President dissolves the Lok Sabha.
Army out in Jaipur after clashes, arson.
Andhra Pradesh Chief Minister N. T. Rama Rao resigns.
- 28 — Fast changing political Scenario led to a sharp setback on Bombay Stock Exchange share prices nosedive.
- 29 — Prime Minister Rajiv Gandhi resigns.
Rajiv Gandhi reelected Congress Parliamentary Party leader. Rajiv Gandhi retains his Amethi Parliamentary seat defeating his nearest rival, Rajmohan Gandhi (Janata DAL) by a margin of 1,97,000 votes.
National Front leader VP Singh wins the Fatehpur Parliamentary seat.
- 30 — Veerendra Patil sworn in as chief Minister of Karnataka.

- Dec. 1 — President Venkataraman invites V.P. Singh leader of Janata Dal Parliamentary Party to form the new Government and gives him 30 days to prove his majority. B.J.P. and CPM agree to support a minority National Front Government from the outside.
Bombay Stock markets in high spirit.
- 2 — V.P. Singh sworn in as the seventh Prime Minister of India, Devi Lal as his Deputy.
Om Prakash Chautala sworn-in chief Minister of Haryana.
Akali Dal (Mann) President Simranjit Singh Mann and his four associates released from jail after withdrawal of all cases pending against them.
- 3 — B J P not to join National Front Government.
Dr. M. Chenna Reddy, Andhra Pradesh Congress committee President sworn-in Chief Minister.
- 5 — U P Janata Dal Chief Mulayam Singh Yadav Sworn in as the Chief Minister.
Ram Krishna Hegde appointed new Deputy Chairman of the planning commission with Cabinet rank.
- 6 — Portfolios allocated to National Front Cabinet.
Union Council of Ministers makes if obligatory for all Ministers to declare Assets.
Jagannath Mishra, leader of Congress Legislative Party sworn-in as Bihar Chief Minister Orissa CM J.B. Patnaik quits.
- 7 — Prime Minister V.P. Singh visits Golden Temple.
Nirmal Kumar Mukherjee appointed Governor of Punjab and administrator of Chandigarh. Hemananda Biswal sworn-in chief Minister of Orissa.
- 8 — Dr. Rubaiya Sayeed 21 daughter of the Union Home Minister Mufti Muhammed Sayeed kidnapped, kidnappers demand release of 5 K L F activists. Soli Jehangir Sorabjee appointed the Attorney General of India.
- 9 — Shyama Charan Shukla sworn-in as the Madhya Pradesh Chief Minister.
- 10 — M. Solanki sworn-in as Chief Minister of Gujarat.
- 12 — Air chief Marshal Arjan Singh (Retd.) appointed Lieutenant Governor of Delhi.
Mr. Justice Sabyasachi Mukherjee appointed Chief Justice of India.
Ratan Tata and Rahul Bazaz chairman of Air India and Indian Airlines respectively resign.
- 13 — Dr. Rubaiya Sayeed freed after five days after the release of four extremists demanded by the kidnappers.
- 14 — Army out, indefinite curfew in Sapore after two people killed in police firing.
- 21 — The National Front Government wins vote of confidence in Lok Sabha.
- 22 — Supreme Court upholds constitutional validity of Bhopal Gas Leak disaster (Processing of claims) Act.
- 26 — Mr. Raghukul Tilak, former Rajasthan Governor dies in a car accident.
Government decides to debar Bofors from future arms deals.
- 29 — The Prime Minister Mr. V.P. Singh refuses to table all Bofors documents in Rajya Sabha.
Parliament passes Constitution Amendment Bill to repeal 59th amendment of the statute which enabled proclamation of emergency in Punjab and suspension of right in the state.
- 31 — The Prime Minister announces formation of a seven member council to advise Government on agricultural prices and related issues.

Deaths 1989

- January 7— Emperor Hirohito of Japan.
 16— Prem Nazir. Veteran Malayalam film actor.
 23— Salvador Dali, Surrealist Painter.
 28— Dakshina Ranjan Bose, Poet and novelist.
 29— Panchen Lama, Tibetan Spiritual Leader.
 March 5— Prithvi Singh Azad freedom fighter and founder of the Gadar Party.
 17— Hemvati Nandan Bahuguna, President of Lok Dal (B) and former Union Minister.
 April 1— S.M. Joshi, doyen of the Socialist movement in India.
 15— Hu Yaobang, former Gen.Secretary of the Chinese Communist Party.
 May 4— Ashutosh Mukhopadhyaya, Bengali Novelist.
 5— Naval H. Tata noted Industrialist.
 26— Tripti Mitra, noted Stage actress.
 30— Bir Bahadur Singh, Union Communication Minister.
 June 3— Ayatollah Khomeini, Iranian Spiritual Leader.
 4— Melville D.Mello, renowned broadcaster.
 July 3— Andrei Gromyko, former Soviet President.
 11— Laurence Olivier, world-famous actor.
 September 27— Hemanta Kumar Mukherjee, noted singer.
 28— Ferdinand Marcos, former President of the Philippines.
 October 3— Ustad Bahadur Khan, famous Sarod Player.
 November 3— The ousted Fijian Prime Minister, Mr.Bavadra.
 20— Hirabai Barodekar, noted singer.
 December 15— Mr. Andrei Sakharov.

Bangladesh 1989

Bangladesh enjoyed relative stability and witnessed some progress on the economic front during the year though some stirrs were created by the campus violence, passage of the 9th Amendment to the constitution, supreme Court Verdict on the 84 Amendment, hartals and opposition Squabbles. Politically the country remained where it had been in the year before last with President Ershad consolidating his position in the state policy and two main opposition leaders Sheikh Hasina and Khaleda Zia—parting ways.

- January 1— President Ershad announces the formation of an 18-member Jatiya Rin Salishi Board headed by him.
 2— English declared as compulsory subject from class I to class XII.
 15— 100 Passengers killed and over 1000 injured in country's worst train disaster near Tongi.
 18— 25 killed as a Barisat-bound night coach from Khulna plunges into river Sandhya at Doarika ferryghat.
 20— Noted film director & journalist Alamgir Kabir and actress Tina Khan drowned in an accident at Nagarbari ferryghat.
 23— President Ershad decides to donate his corneas posthumously to the people of Bangladesh.
 28— Elections to the country's 80 pourasabhas out of 86 held amidst widespread poll violence, which claims 3 lives.
 February 28— Jatiya Sangad passes three bills that provides for the constitution of elected local government councils in three hilly districts of Rangamati, Bordarban and Khagrachhari.
 April 6— Bangladesh to give 10,000 tons oil products to Nepal.

- 26— Special prayer for rain throughout the country offered. Rain at long last.
 27— Tomado ravages 50 villages of three districts of Dhaka, Manikgunj and Tangail killing 1000 and injuring 10,000.
- May 1— May Day today. 43 mills closed, laid off.
 2— Cyclone hits Bogra, 3 killed, 100 injured.
- June 4— Seven numbers of JSD (Rabi) shot dead and 25 others injured in a gunfight with the armed activists of outlawed Sarbahara Party at village Kungshi under Jhenidah sadar Upazila.
 12— Country rocked by tremor.
 24— Chittagong Hill Tract Council polls held.
- July 2— Nine killed in Munshigunj rice mills boiler blast.
 5— Worst traffic jam in city.
 10— Jatiya Sangsad passes the Constitution (9th Amendment) Bill 1989.
- August 10— Unidentified gunmen attack the Dhammondi residence of Bangabandhu Sheikh Mujibur Rahman Sheikh Hasina unhurt.
- September 1— National Awami Party splits giving rebirth to NAP Muzaffar and Oikya NAP.
 2— Supreme Court verdict on 8th Amendment ; amendment to Article 100, 107 declared invalid. Seven Party combine announces a ten-month programme.
 10— Trade pact with India extended for another three years.
 17— 5 die, 25,000 fall sick in Puthia upazilla of Rajshahi after using water contaminated by expired veterinary medicine.
 18— Gunshots, bomb blasts rock Dhaka University campus.
 20— Police storm six Dhaka University halls and recover huge arms and ammunition and arrest 34 students.
 25— 31 killed as a bus plunges into river in Manikgunj.
 30— Pakistani Prime Minister Benazir Bhutto arrives.
- October 2— Benazir-Ershad hold talks, cultural protocol signed.
 6— Police storm two halls of Dhaka University, recover huge fire arms and arrest 61 students.
 7— New government office timing 9 am to 4 pm comes into force.
 22— Nine student parties quit central student's Action Committee.
- November 1— Rival students clash in Chittagong 12 injured.
 2— Dhaka University hall union leaders meet Ershad.
 3— Chhatra League leader murdered in Chittagong.
 29— Arif Ahmed a student of Dhaka University gunned down. Over 200 injured, 110 held in city during dusk-to-dawn country wide hartal.
- December 1— Gunshots rock Dhaka University.
 5— 48 percent cut in petrol price announced.
 22— Police beat journalists, passerby and burn trucks in Malibagh as a sequel to killing of traffic constable in road accident.
 24— Cabinet reshuffled, four Ministers relieved of their duties and three ministers sworn in.

International Affairs 1989

- January 1— Arafat opens PLO embassy in Riyadh.
 2— Premadasa takes over as President of Sri Lanka.
 4— 2 Libyan planes shot down by US
 7— Emperor Hirohito of Japan dies at the age of 87, Crown Prince Akihito becomes

- the 125th monarch of Japan.
- 8— Moscow ready to destroy chemical weapons stock.
 - 11— Hungarian Parliament enacts two laws giving Hungarians the right to demonstrate and join Political Parties other than the Communist Party.
 - 20— George Bush sworn in as 41st President of USA.
 - 23— Quake kills 1415, 2 villages buried in Iajikistan.
Surrealist painter Salvador Dali expires.
- February 3— President Alfredo Stroessner of Paraguay, Latin America's longest ruling head of State ousted by the military, 300 killed in the coup.
- 12— Hungarian Communist Party endorses the idea of a multi-party political System.
 - 15— Iran announces an award of one million dollars for carrying out death sentence against Rusdie.
- March 7— Iran serves diplomatic relations with Britain for UK'S refusal to denounce Salman Rusdie's novel the Satanic Verses.
China declares Martial Law in the Tibetan capital of Lhasa following three days of rioting.
- 9— Saudi Arabia officially recognises the Pakistan based interim government of Afgan Mujahideen.
 - 20— Fierce fighting breaks out around Jalalabad as Mujahideen launch joint attacks on the city under a unified command.
 - 28— Entire Leningrad leadership routed in polls.
- April 2— Yasser Arafat named as the first President of Independent Palestine. Haitian Military President General Prosper Avril overthrown.
- 7— Polish Parliament lifts ban on Solidarity.
 - 8— Soviet nuclear submarine sinks in Arctic : 12 killed.
 - 15— 95 killed in Britain's worst soccer disaster.
Hu Yaobang former head of Chinese CP dead.
 - 21— Andrei Sakharov elected to revamped Soviet Parliament.
Nepal ready for talks with India.
 - 22— Chinese students vow to fight for freedom.
- May 4— Massive rally for democracy. Students newsmen defy govt. warning in China.
- 12— China asks students not to hold rally during Gorbachev's visit.
 - 13— One thousand chinese students begin hunger strike for democracy.
 - 14— Students disrupt Gorbachev's official programmes in China.
 - 18— Biggest ever rally for democracy in China.
 - 19— Martial Law declared in Beijing as students hungerstrike continues. Chinese Communist Party chief Zhao Ziyang resigns.
 - 21— Chinese leadership split over role of the army.
 - 26— Gorbachev elected USSR'S first executive president.
Zhao Ziyang placed under home arrest.
 - 28— Chinese student hold fresh pro-democracy rally in Beijing.
- June 4— Troops crackdown on Beijing students.
- 5— Foreigners flee Beijing.
 - 7— Troops fire on diplomatic quarters in Beijing.
 - 8— Beijing calm, Li Peng appears in public.
 - 9— Deng praises troops for crackdown.
 - 24— Zhao Ziyang dismissed.
 - 28— The LTTE and Sri Lankan Government announce ceasefire of hostilities.
 - 30— Sudanese Civilian Government of the Prime Minister Mr. Sadek Al-Mahdi removed.
- July 7— Mr. George Bush rejects Mr. Gorbachev's arms cut offer saying he does not want to jeopardise NATO unity.

- 13— The bicentennial of French Revolution opens in Paris.
Mr. Aukithlingam and Mr. Yogeswaran, top TULF Leaders shot dead in Colombo.
- 16— Coal miners in Soviet Siberia strike work.
- 17— The United States bans sale to India of missile testing device.
- 21— Soviet coal miners strike called off.
- 29— Mr. Rafsanjani elected Iran's President.
- 30— International Meet to bring Peace to Cambodia.
- August 15— Mr. F. W. De klerk sworn in as South African President.
- 17— Gen. Czeslaw Kiszczak, Polish prime minister resigns.
- 24— Solidarity Journalist, Mr. Tadeusz Mazowiecki elected Poland's Premier.
- September 4— Ninth NAM Summit begins at Belgrade.
- 13— Hungary says it would break its Warsaw Pact commitment and open borders to the west.
- 26— Vietnam pulls out of Cambodia.
- 9— East Germans launch reform movement.
- 15— Mr. Walter Sisulu, deputy to Mr. Nelson Mandela of the ANC and seven other top nationalists freed.
- 18— At least 271 killed, 500 injured as a 6.6 Second earthquake rock San Francisco.
- The veteran East German Communist Party chief Mr. Erich Honecker steps down.
- 22— The 27th CHOGM at Kuala Lumpur calls for Sanctions against South Africa. Hungary proclaims itself Republic.
- 25— The Soviet Parliament allows direct elections of the head of the country's 15 republics and local level councils.
- 28— Protests in East Germany despite amnesty.
- November 1— Mrs. Benazir Bhutto the Prime Minister of Pakistan defeats no-trust motion.
- 4— One billion rally in Berlin to protest censorship and repression.
- 7— East German Government resigns.
- 9— Mr. Deng Xiaoping retires in China.
- 10— Thousands flock towards the west as GDR opens borders.
The Bulgarian President, Mr. Zhivkov resigns.
- 11— Dismantling of Berlin wall begins.
- 13— JVP chief Mr. Wijeweera killed in an encounter, Says Sri Lanka.
- 14— Swapo wins Namibian elections.
- 21— Romania rejects Soviet Style reforms.
- 22— The Lebanese president Mr. Mouawad killed in car bomb explosion.
- 24— Czech politburo along with communist Party chief Mr. Milis Jakes resigns.
Mr. Elias Hrawl elected Lebanon's 10th president.
- December 1— Coup bid in the Philippines crushed.
- 3— East German Politburo quits.
- 10— New Czech Government, first without Communist majority, sworn in Prague.
- 20— The US troops invade Panama, Gen. Noriega escapes.
- 24— Gen. Noriega seeks asylum in Vatican Embassy.
- 25— President Ceausescu and wife executed.
- 26— Mr. Ion Iliescu, one of the leaders of pro-democracy struggle in Romania, is elected President of Romania.
- 27— Interim Government of Romania repeals several laws passed by Ceausescu regime.
- 29— Poland proclaims itself a democratic state ruled by law.

Indo-Pak Relations 1989

At his first press conference as Prime Minister Mr. V.P. Singh said India expected Pakistan to fulfil its assurance that it would not extend support to terrorists in Punjab and Jammu and Kashmir. But Pakistan as usual did not give any positive reply. However there was no major untoward incident between the two countries during the year that has gone by.

On January 1, 1989 just after the conclusion of SAARC meeting the then Prime Minister Mr. Rajiv Gandhi held talks with Pakistani Prime Minister Mrs. Benazir Bhutto. The subject of their discussion was how to reduce troops in the border area.

On February 11, Pakistan warned against India Navy build up.

On July 8, Mrs. Benazir Bhutto proposed arms cut talks with Mr. Rajiv Gandhi.

On July 10, Indo-Pak joint Military body for Siachen glacier was proposed.

On July 17, Mr. Rajiv Gandhi and Mrs. Benazir Bhutto clashed over Nuclear Policy.

Meanwhile it is learnt that Pakistan has stepped up its aid, abettment and encouragement to the secessionist forces in Jammu and Kashmir since early December 1989 increasing the chances of a low intensity cross-border conflict with grave risks of escalation through miscalculation Islamabad has done so, in violation of the 1972 Simla accord, for a variety of reasons. Mostly connected with domestic power struggle. Pakistan had continued with the expansion and organisation of its military forces. During the past 18 years its Army had doubled and the Navy trebled in size while its Air Force had grown to two and a half time its earlier size.

INDIAN DIRECTORY

PRESIDENT OF INDIA—R. VENKATARAMAN MEMBERS OF THE CABINET

Prime Minister

— Mr. V.P. Singh. Mr Singh will be overall incharge of Defence, Personnel, Public Grievances and Pensions, Science & Technology, Atomic Energy, Electronics, Ocean Development, Space, Environment and Forest and other subjects not allocated to any other Cabinet Minister on Minister of State.

— Mr. Devi Lal

— Mr. Mufti Mohammad Sayeed

— Mr. Arif Mohd. Khan.

Agriculture

Home Affairs

Energy with additional

Charge of Ministry of Civil

Aviation.

Labour & Welfare

External Affairs

Petroleum & Chemicals

Food & Civil Supplies

Surface Transport with

additional charge of

Ministry of Communications

Steel & Mines with additional

Charge of Ministry of

Law & Justice.

— Mr. Ram Vilas Paswan.

— Mr. I.K. Gujral.

— Mr. M.S. Gurupadaswamy.

— Mr. Nathu Ram Mirdha.

— Mr. K. P. Unnikrishnan.

— Mr. Dinesh Goswami.

Textiles with additional charge
of Ministry of Food Processing
Industries.
Urban Development
Industry
Information & Broadcasting and
Parliamentary Affairs.
Commerce & Tourism
Finance
Health & Family Welfare
Railways

— Mr. Sharad Yadav.
— Mr. Muraoli Maran
— Mr. Ajit Singh.

— Mr. P. Upendra.
— Mr. Arun Kumar Nehru
— Prof Madhu Dandavate
— Mr. Nilamani Routray.
— Mr. George F ernandes.

MINISTERS OF STATE

Environment & Forest with additional
charge of Ministry of Programme
Implementation
Science & Technology,
with additional charge of Ministry
of Programme Implementation.
Defence

— Mrs. Maneka Gandhi.

— Prof. M.G.K. Menon.
— Dr. Raja Ramanna.

INDEPENDENT CHARGE

Water Resources

— Mr. Manobhai Kotadiya

Governors & Chief Minister of States

States
Andhra Pradesh
Arunachal Pradesh
Assam
Bihar
Goa
Gujarat
Haryana
Himachal Pradesh
Jammu and Kashmir
Karnataka
Kerala
Madhya Pradesh
Maharashtra
Manipur
Meghalaya
Mizoram
Nagaland
Orissa
Punjab
Rajasthan
Sikkim
Tamil Nadu
Tripura

Governors
Krishan Kant
R.D. Pradhan

Yunus Saleem
Khurshid Alam Khan
R.K. Trivedi
Dhanik Lal Mandal
B. Rachaiah
Jagmohan
Mr. Venkatasubbiah
Dr. Sarup Singh
Kunwar Mahmood Ali
C. Subramaniam
Chintamani Panigrahi
A.A. Rahim
Swaraj Kaushal
Gopal Singh
Yagyut Sharma
Nirmal Kumar Mukherjee
D.P. Chattopadhyaya
Adm. R.H. Tahiliani
Dr. P.C. Alexander
Raghunth Reddy

Chief Ministers
M. Chenna Reddy
Gegong Apang.
Prafulla Mahanta
Lallu Prasad Yadav
Pratapsinh Rane.
Chimanbhai Patel
Omprakash Chauthala
Shanta Kumar

Virendra Patil
E.K. Nayanar
Sunderal Patwa
Sharad Power
Jaichandra Singh
P.A. Sangma
Lalthanhawla
S.C. Jamir
B. Patnaik

Bhairon Singh Shekhawat
Nar Bahadur Bhandari
M. Karunanidhi
S. R. Mazumdar

Uttar Pradesh
West Bengal

B. Satyanarayana Reddy
S. Nurul Hassan

Mulayan Singh Yadav.
Joyti Basu

Union Territories

Andaman & Nicobar
Islands
Chandigarh

Dadra & Nagar
Haveli
Delhi

Goa Daman & Diu
Lakshadweep
Pondicherry

Romesh Bhandari
(Lt. Governor)
K. Banerjee
(Chief Commissioner)
P.S. Gill
(Administrator)
Arjun Singh
(Lt. Governor)
(Administrator)
(Administrator)
Thankamma Stephen
(Lt. Governor)

Jag Parvesh Chandra
(Chief Executive of
Metropolitan Council)

Election Commissioner

Chief Election Commissioner—R.V.S. Peri Sastri

Lok Sabha Secretariat

Speaker—Rabi Ray
Deputy Speaker—Thambi Durai
Secretary—Avtar Singh Rikhy

Rajya Sabha Secretariat

Chairman—Shankar Dayal Sharma
Deputy Chairman—Mrs. Nazma Heptullah.
Secretary—Avtar Singh Rikhy

Supreme Court of India

Chief Justice of India—Sabyasachi Mukherjee
Judges—C.A. Vaidalingam, P. Jagamohan Reddy, I.D. Dau, A.N. Alagirisswami, V.R.I.K. Iyer, P.K. Goswami, S. Varadarajan, A.C. Gupta, U.N. Utwalia, S.M. Fazi Ali, O. Chinnappa Reddy, Ananda Dev Koshal, Ananda Prakash Sen, V.D. Tulzapurkar, V. Ramaswamy, P.B. Sawant, N.M. Kasliwal, M.M. Ponchi, K. Ramaswamy, Sm. Meera Sahiba Fatima Beevi.

NOBEL PRIZES —1989

Physics—Dr. Norman F. Ramsey, Dr. Hans. G. Dehmelt (U.S.A.), Dr. Wolfgang Paul (West Germany)
Chemistry—Dr. Sydney Altman & Dr. Thomas Cech (U.S.A.)
Medicine—Dr. J. Michael Bishop & Dr. Harold E. Varmes (U.S.A.)
Literature—Camil Jose Ceala (Spain)
Economic Science—Trygve Havelmo (Norway).
Peace—Dalai Lama (Tibet).

SEVENTH FIVE YEAR PLAN

The programme of development during the Seventh Plan must be set up against the perspective of the next 15 years : 1985-2000. The investment programmes of the policy initiatives for the Seventh subsequent Plans must be related to the goals of the nation has for the year 2000.

The attainment of these goals requires

- action to sustain and enhance the momentum of economic expansion of technological development.
- adoption of effective promotional measures to raise productivity and incomes of the poorer sections of the population, poorer regions of poorer states.
- expansion of qualitative improvement in facilities for health, education and other basic civic amenities.
- measures for bringing about a sharp reduction in the rate of population growth.

AGE STRUCTURE OF THE POPULATION 1980-2000 (AS ON 1ST MARCH) (PER CENT OF TOTAL POPULATION)

Age Group	1980	1985	1990	2000
(0)	(1)	(2)	(3)	(4)
0-4	14.18	13.91	12.85	10.67
5-14	25.54	24.34	23.15	20.96
15-59	54.07	55.51	57.50	60.79
60 plus	6.21	6.24	6.50	7.58
Total	100.00	100.00	100.00	100.00

WOMEN IN THE REPRODUCTIVE AGE GROUP 1980-2000 (AS ON 1ST MARCH) (Millions)

Year	Total Female Population	Women in the Age Group 15-44	Rates of Women in the reproductive age group to total female population (%)
(0)	(1)	(2)	(3)
1980	323.59	140.72	43.4
1985	360.74	160.25	44.42
1990	398.41	183.03	45.94
2000	472.64	227.67	48.17

The urban population in the year 2000 is estimated at nearly 315 millions, indicating a share of 32% in the total population. This is roughly 54% of the total addition to population in India between 1981 & the year 2000.

DEMOGRAPHIC PERSPECTIVE

The population recorded an annual rate of growth of 2.25 per cent in the decade 1971-1981 in comparison with the growth of 2.22% of 1961-1971. On the basis of the projected birth and death rates of 23.7 & 8.4 per thousand, respectively, during 1996-2001 from the level of 33.2 & 12.2 during 1981-86, the population in the year 2000 has been estimated to reach 972 millions. The annual growth rate of population would be reduced from 2.10% during 1981-86 to 1.53 during 1996-2001 as shown in the table next page :

ASSUMPTION UNDERLYING POPULATION PROJECTIONS 1981-2001.

Period	Population at the end of the period (million) (as on 1st March)	General fertility rate		Average expectation life at birth (yrs.)		Birth rate	Death rate	Growth rate	
		Decline		Absolute					
		Decline compared to the previous	Absolute Level	Male	Female				
									Total	Urban
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1981-86	761	192	6	156	55.6	56.4	33.2	12.2	21.0
1986-91	837	230	13	136	58.1	56.1	29.7	10.7	19.0
1991-96	913	274	13	118	60.6	61.7	26.7	9.3	17.4
1996-2001	986	326	14	102	62.8	64.2	23.7	8.4	15.3

**LABOUR FORCE PROJECTION BY AGE, SEX & PLACE OF RESIDENCE PARTICIPATION RATES FOR
THE YEAR 1980, 1985, 1990 & 2000 (AS ON 1ST MARCH) (MILLIONS)**

Year	5+			15+			15-59			
	Males	Females	Total	Males	Females	Total	Males	Females	Total	
1980	Rural =	148.86	66.24	215.10	139.74	60.36	200.10	128.53	57.73	186.26
	Urban =	44.84	10.81	55.65	43.72	10.12	53.84	41.71	9.71	51.42
	Total =	193.70	77.05	270.75	183.46	70.48	253.94	170.24	67.44	237.68
1985	Rural =	164.18	73.21	237.39	154.81	67.07	221.88	142.61	64.18	206.79
	Urban =	54.69	13.32	68.01	53.42	12.52	65.94	51.00	12.02	63.02
	Total =	218.87	86.53	305.40	208.23	79.59	287.82	193.61	76.20	269.81
1990	Rural =	180.64	80.69	261.33	171.08	74.42	245.50	157.43	71.18	228.61
	Urban =	66.91	16.54	83.45	65.48	15.63	81.11	62.48	14.99	77.47
	Total =	247.55	97.23	344.78	236.56	90.05	326.61	219.91	86.17	306.08
2000	Rural =	208.52	93.45	301.97	198.94	87.22	286.16	181.32	83.01	264.33
	Urban =	101.10	24.91	126.01	97.84	3.73	121.57	92.86	22.66	115.52
	Total =	309.62	118.36	427.98	296.78	110.95	407.73	274.18	105.67	379.85

DEVELOPMENT PERSPECTIVE

Taking into account the basic goals to be achieved by the Year-2000 and the resources base modernisation and the adoption of advanced technology would require priority attention so that an optimum use of resource and be brought about.

The gross domestic product at factor cost is postulated to grow at an average rate of 5% over the 15 years period 1985-2000. The micro-economic aggregate of the perfective Plan 1990-2000 and for the base year 1984-85. The rate of capital formation has been projected to increase from 24.5% of GDP to 26.4% and that of domestic saving has been stipulated to decline from 1.4% (GDP in 1989-1990) to 0.6% in 1999-2000.

MACRO-ECONOMIC AGGREGATE
(Rs. CRORES AT 1984-85 PRICES)

	1984-85	1989-90	1999-2000
GDP at factor cost	193428	246881	402143
Indirect taxes less subsidies	24334	35064	65939
GDP at market prices	217762	281945	468082
Net factor Income from abroad	(—)681	(—)500	(—)100
Other current transfers	2799	3000	3500
Disposable Income	219880	284445	471482
Gross domestic savings	50738	68997	120540
Consumption expenditure			
Total	169142	215448	350942
Private	146308	185285	301810
Public	22834	30163	49132
Gross domestic capital formation	53338	72997	123540
Foreign savings	2600	4000	3000
Rate of domestic savings	23.3	24.5	25.8
Rate of investment	24.5	25.9	26.4
Marginal rate of savings		28.4	27.7

PROJECTED SECTORAL ANNUAL RATES OF GROWTH
IN TERMS OF GROSS VALUE ADDED
AT FACTOR COST
(PER CENT PER ANNUM COMPOUND)

Sl. No.	Sector	1989-90 1984-85	1990-2000 1989-1990
(1)	(2)	(3)	(4)
1.	Agriculture	2.5	2.4
2.	Mining & manufacturing	6.8	6.9
	a) Mining	11.7	3.5
	b) Manufacturing	5.5	7.8
3.	Electricity, gas & water supply	7.9	7.7
4.	Construction	4.8	4.9
5.	Transport	7.1	5.3
6.	Services	6.1	5.8
	Total	5.0	5.0

**SECTORAL COMPOSITION OF GROSS VALUE ADDED
AT FACTOR COST 1984-85, 1989-90 & 1990-2000
PER CENT**

Sl.	Sector	1984-85	1989-1990	1999-2000
	(1)	(2)	(3)	(4)
1.	Agriculture	36.9	32.7	25.5
2.	Mining & manufacturing	18.1	19.8	23.6
a)	Mining	3.5	4.8	3.8
b)	Manufacturing	14.6	15.0	19.8
3.	Electricity, gas & water supply	2.0	2.3	2.9
4.	Construction	6.2	6.2	6.1
5.	Transport	5.6	6.2	6.4
6.	Services	31.2	32.9	35.5
	Total	100.00	100.00	100.00

By the turn of the century, the total population of India is expected to be 972 million and gross domestic product is stimulated to rise at 5% per annum over the period 1985-2000. the foodgrain requirement by the year 2000 has been estimated around 240 million tonnes.

**PROJECTION OF OUTPUT OF PRINCIPAL COMMODITIES
AND SERVICES : 1989-90 & 1999-2000**

Sl. No.	Commodities	Unit	1984-1985	1989-1990	1999-2000
1.	Foodgrains	Million tonnes	150	178-183	235-240
2.	Coal	"	147.44	226	417
3.	Lignite	"	7.8	15.2	30
4.	Iron Ore & Concentrates	"	42.2	58.1	85
5.	Cloth	"	11,950	14,500	21,600
6.	Paper & Paper Board	Thousand tonnes	1361.2	1,800	2,930
7.	L.D. Polythene	"	107.1	186	490
8.	H. D. Polythene	"	38.9	125	235
9.	Polypropylene	"	27.3	79	180
10.	P.V.C.	"	84.0	23.3	455
11.	Nitrogenous fertilisers(N)	"	3,917	6,560	11,400
12.	Phosphate fertilisers(P ₂ O ₅)	"	1,264	2,190	4,180
13.	Cement	Million tonnes	30.1	49	87
14.	Saleable Steel (Plain Carbon)	"	8.77	12.64	21
15.	Aluminium	Thousand tonnes	276.5	499	850
16.	Copper refined	"	33.5	42.7	130
17.	Zinc	"	57.6	39	150
18.	Lead	"	14.2	27	60
19.	Electricity generation	Billion Kwh	167	295.4	558-600
20.	Railway originating traffic	Million tonnes	263	340	520

OBJECTIVES

The Seventh Plan's objectives are to guide the principles of planning concerning the growth, modernization, self reliance and social justice. It seeks to emphasise policies and programmes which will accelerate the growth as foodgrain production, increase employment opportunities and raise productivity.

STRATEGY

The strategy of the Seventh Plan is the generation of productive employment and as a result, it aims at a significant reduction in the incidence of poverty and an improvement in the quality of life for the poor in the villages and towns. At the same time, the expansion of education and health facility will open up job opportunity and the spread of credit institutions and other developmental activity will create opportunity for self-employment.

The increase in the spending power of poor households will lead to a more rapid expansion in the demand for mass consumption goods, most, most particularly foodgrains, clothing & shelter. Hence the Plan requires increasing the production of foodgrains, cooking fuel, other articles of mass. Consumption & rapid expansion in housing.

One of the major weaknesses that has emerged in the Indian economy is low productivity resulting from several factors which are interrelated. One major cause of low productivity is the inefficiency with use of capital: the increase in output in several sectors have not been commensurate with the scale of investment undertaken. The Seventh Plan emphasises on obtaining more output out of assets that have been built up over the year this emphasis on efficiency on the use of Capital is doubly necessary at the present stage when the resource available for public investment are well short of requirements. It would obviously be an unsound policy to undertake investments in new capacity. The cost of creating assets has already been raised in the past for the delays in proper implementation & insufficient attention. So improvements in capacity utilisation & efficient project implementation in all areas, like irrigation power, transport & industry are essential for achieving the basic objectives of the Seventh Plan and for putting the Indian economy on a high growth path.

Environmental protection is an important component of the development strategy of the Seventh Plan. The induction of new technologies and the pursuit of economic growth should not be at the cost of environment.

The development strategy of the Seventh Plan aims at a positive attack on the problems of unemployment regional imbalances & poverty it requires successful substantial improvements—which accelerated developments of human resources, greater selectivity in the development and use of domestic technological capabilities, the widespread induction of new technologies in our farms, factories and offices, special emphasis on the capacity of utilization and better project implementation and the pursuit of policies that would cut down costs of production particularly in the industrial sector.

MACRO-DIMENSIONS

In the Seventh Plan the growth rate of gross domestic product is expected to be 5%. In the Sixth Plan, this rate is in line with the growth rate achieved a little higher than the average for the past decade.

The rate of growth envisaged for the Seventh Plan requires a total investment of Rs. 322,366 crores of which 94% will be financed from the domestic resources. The rate of domestic savings is expected to go up from 23.3% of GDP in 1984-85 to 24.5% in 1989-90.

Macro-Economic Aggregate

	(Rs. Crores at 1984-85 prices)	
	1984-85	1989-90
GDP at factor cost —	1,93,428	2,46,881
Indirect taxes less subsidize	24,334	35,064
GDP at market prices	2,17,762	2,81,945
Net factor income from abroad	(—) 681	(—) 500
Other current transfers	2,799	3,000
Disposable income	2,19,880	2,84,445
Gross domestic savings	50,738	68,997
Consumption exp. total	1,69,142	2,15,448
Private—	1,46,308	1,85,285
Public —	22,839	30,163
Gross domestic Capital formation—	53,388	72,997
Foreign Savings	2,600	4,000
Rate of domestic savings	23.3	24.5
Rate of investment	24.5	25.9
Marginal rate of saving	—	28.4

The Seventh Plan outlays in the public sector will be Rs. 180,000 which includes current development outlays of Rs. 25,782 crores and gross investment of Rs. 154,218 crores. It shows increase in the allocations for infrastructure & human resource development. The share of the public sector in total investment over the Plan period will be 48%. The private corporate sector will account for 17% & unincorporated enterprises & households for 35% of the total investment.

Sectoral Allocation of Public Sector Outlay :

Tables below give the sectoral allocation of public sector outlays during the Seventh Plan. It will be seen that the largest shares in the allocation go to the energy sector (30.45 per cent), agriculture including rural development, special area programmes and irrigation (22.09 per cent) and social services (16.31 per cent), which together account for over two-thirds (68.85 per cent) of total public sector outlay. Thus the plan is heavily oriented towards power, agricultural and rural development, and social services and human resource development.

The pattern of public investment taken together with private investment is designed to sustain the rate of growth of 5 per cent annum. In allocating investible funds in the public sector, in view of the resources constraint, areas where the rates of return are higher or the needs of additional capacity are more immediate have been given preference over new projects which will yield output only after the Seventh Plan. Another major consideration has been to lay stress on increases in productivity of the existing capital stock through investment in replacements, balancing equipment and modernisation. Finally, an attempt has been made to ensure balance among the infrastructure sectors, the rest of the production sectors and the sector of human resources development including poverty alleviation programmes. It is, however, recognised that in order to sustain the growth momentum in the Eighth Plan, it may be necessary to make additional allocation for new

projects in sectors such as power, coal and railways. It may also be necessary to make some additional allocations for roads of national importance, civil aviation, agricultural research and storage facilities. Depending on the progress of the economy, decision in these matters could be taken at the time of annual plan reviews and the mid-term of the Seventh Plan.

Public Sector Outlays—Seventh Plan

(Rs. in Crores)

Sl. No.	Heads of Development	Total	Centre	States	UTs
1.	2	3	4	5	6
I.	Agriculture	10573.62 (5.87)	4056.71 (4.25)	6248.40 (7.74)	268.51 (7.13)
II.	Rural Development	9074.22 (5.04)	4901.59 (5.13)	4142.84 (5.13)	29.79 (0.79)
III.	Special area programme	3144.69 (1.75)	— —	3144.69 (3.90)	— —
IV.	Irrigation and flood control.	16978.65 (9.43)	834.93 (0.87)	15949.77 (19.77)	193.95 (5.15)
V.	Energy	54821.26 (30.45)	31492.14 (32.96)	22786.15 (28.24)	542.97 (14.41)
VI.	Industry and minerals	22460.83 (12.48)	18552.97 (19.42)	3785.88 (4.69)	121.98 (3.24)
VII.	Transport	22971.02 (12.76)	16459.37 (17.23)	5772.50 (7.15)	739.15 (19.61)
VIII.	Communication, information and broadcasting	6472.46 (3.60)	6365.82 (6.66)	99.33 (0.12)	7.31 (0.19)
IX.	Science and technology	2466.00 (1.37)	2303.43 (2.41)	157.28 (0.20)	5.29 (0.14)
X.	Social services	29350.46 (16.31)	10350.90 (10.84)	17182.88 (21.29)	1816.68 (48.21)
XI.	Others	1686.79 (0.94)	216.14 (0.23)	1428.28 (1.77)	42.37 (1.13)
Grand Total		180000.00	95534.00	80698.00	3768.00

(Figures in brackets are percentages of column totals).

Sector-wise Allocations for the Seventh Plan 1985-90

Seventh Plan outlay					
Sl. Heads of development No.	2	Total 3	Centre 4	States 5	UTs 6
I					
Agriculture		10,573.62	4,056.71	6,248.40	268.51
Agricultural research and education		704.60	425.00	277.17	2.43
Crop husbandry		3,311.80	1,305.00	1,948.44	58.36
Soil and water conservation		740.39	110.00	597.30	33.09
Animal husbandry and dairying		1,076.68	410.00	622.64	44.04
Fisheries		499.19	170.00	305.42	23.77
Forestry and wildlife		1,859.10	446.71	1,304.08	72.31
Management of natural disasters		21.10	10.00	11.10	—
Agricultural marketing and rural godowns		149.44	60.00	86.44	3.00
Food, storage and warehousing, food processing		307.08	275.00	31.07	1.01
Investment in agricultural financial institutions		353.66	195.00	158.56	0.10
Cooperation.		1,400.58	500.00	870.18	30.40
Plantation		150.00	150.00	—	—
II. Rural Development.		9,074.22	4,901.59	4,142.84	29.79
Integrated rural development and related programmes		3,473.99	1,864.38	1,609.61	..
National rural employment programme		2,487.47	1,250.81	1,236.66	..
Community development and panchayat institutions		416.15	..	396.30	19.85
Special employment programmes		509.24	..	509.24	..
Rural landless employment guarantee scheme		1,743.78	1,743.78	..	..
Land reforms		395.83	36.71	353.88	5.24
Integrated rural energy programmes		47.76	5.91	37.15	4.70

(Rs. crores)

[illegible]

Inland water transport	225.73	155.00	67.20	3.53
Civil aviation	757.84	730.21	24.72	2.91
Tourism	326.16	138.68	164.31	23.17
Farakka Barrage	49.30	49.30	..	..

VIII. *Communication, information and broadcasting*

Posts	6,472.46	6,365.82	99.33	7.31
Telecommunications	295.00	295.00	..	..
Broadcasting	4,538.74	4,530.00	8.49	0.25
Doordarshan	700.00	700.00	..	..
Information and publicity	700.00	700.00	..	..
Films	127.90	30.00	90.84	7.06
INSAT —space segment	41.51	41.51	..	..
	69.31	69.31	..	..

IX. *Science and technology.*

Atomic energy	2,466.00	2,303.00	157.28	5.29
Scientific research including INSAT —space segment	315.00	315.00	..	..
Scientific and industrial research	543.09	458.43	81.57	3.09
Environment and ecology/prevention and control of air and water pollution and Ganga action plan	355.00	355.00	..	..
Ocean development	427.91	350.00	75.71	2.20
Space	100.00	100.00	..	..
Forensicscience labs, and Police wireless	700.00	700.00	—	..
	25.00	25.00	..	..

X. *Social Services.*

Education, culture and sports	29,350.46	10,350.90	17,182.88	1,816.68
Health including medical	6,382.65	2,388.64	3,488.71	505.30
Family welfare	3,392.89	897.34	2,240.33	255.22
Housing and urban development	3,256.26	3,256.26	..	..
Water supply and sanitation	4,259.50	457.88	3,281.09	520.53
Welfare of scheduled castes / scheduled tribes and other backward classes	6,522.47	1,236.83	4,848.06	437.58
	1,520.43	281.22	1,219.21	20.00

Special Central additive for scheduled castes component

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plans	930.00	930.00	..	20.52
Social and women's welfare.	1,012.36	799.97	191.87	39.00
Nutrition	1,740.18	7.32	1,693.86	18.53
Labour and labour welfare	333.72	95.44	219.75	
XI. Others	1,686.79	216.14	1,428.28	42.37
Statistics	93.02	40.78	48.24	4.00
Rehabilitation of displaced persons	146.13	146.03	..	0.10
Planning machinery	75.50	8.16	64.54	2.80
District planning	627.06	..	622.31	4.75
Stationery and printing	62.08	6.00	50.08	6.00
Public works	568.82	..	549.92	18.90
Training for development	16.81	4.93	8.98	2.90
Public distribution system	46.51	2.50	41.21	2.80
Official language—Hindi	2.00	2.00	41.21	2.80
Others	1.12	..	1.00	0.12
Unallocated	47.74	5.74	42.00	..
Grand Total	1,80,000.00	95,534.00	80,698.00	3,768.00

State-wise/Sector-wise allocations for the Seventh Plan 1985-90

(Rs. crores)

States & Union Territories	Heads of Development	Agriculture	Rural Development	Special Area Programmes	Irrigation & Flood Control
1	2	3	4	5	
A. States					
1. Andhra Pradesh		278.80	272.00	..	1,488.10
2. Assam.....		305.75	128.50	10.10	334.00
3. Bihar.....		278.15	458.05	4.50	1724.00
4. Gujarat....		386.40	135.49	..	1676.31
5. Haryana....		277.34	47.52	15.10	594.61
6. Himachal Pradesh.		231.62	36.54	..	74.50
7. Jammu & Kashmir...		156.2	42.12	95.90	120.36
8. Karnataka		316.75	124.50	5.50	384.00
9. Kerala		316.75	124.50	5.50	384.00
10. Madhya Pradesh		434.43	305.87	..	1976.48
11. Maharashtra		655.61	680.49	320.49	1890.61
12. Manipur		56.60	19.35	..	1976.48
13. Meghalaya		74.95	12.08	10.00	11.60
14. Nagaland		73.00	19.81	8.00	15.00
15. Orissa		239.55	202.65	..	696.00
16. Punjab		325.98	65.99	21.10	370.00
17. Tamil Nadu		422.10	288.20	..	330.00
18. Sikkim		48.50	3.97	..	16.05
19. Tamil Nadu		422.10	288.20	..	330.00
20. Tripura		73.80	29.95	..	48.00
21. Uttar Pradesh		786.96	604.25	..	48.00
22. West Bengal		345.00	334.75	69.00	400.00
23. Special Area Programmes (Centrally/LIC funded) ..					
24. Unallocated				2559.00	..
TOTAL A. STATES		6248.40	4142.84	3144.69	15949.77
B. Union Territories					
1. A & N Islands ...		26.06	0.55	..	2.70
2. Arunachal Pradesh ..		84.10	7.95	..	26.00
3. Chandigarh.....		4.98	1.27	..	6.38
4. Dadra & Nagar Haveli..		9.71	0.60	..	..
5. Delhi.....		25.13	4.66	..	69.27
6. Goa, Daman & Diu...		33.37	3.99	..	70.45
7. Lakshadweep..		12.00	1.86	..	1.00
8. Mizoram.....		50.40	3.70	..	8.50
9. Pondicherry...		4.92	..	9.05	..
TOTAL— B. UNION TERRITORIES		268.51	29.79	..	193.95

Energy	Industry & Minerals	Trans- port	Communi- cation, Informa- tion & Broad- casting	Science & Techno- logy	Social Services	Others	Total
6	7	8	9	10	11	12	13
1105.90	312.90	272.70	12.60	10.30	1385.90	60.80	5200.00
486.50	103.10	166.20	2.50	5.00	498.25	60.10	2100.00
1083.00	216.60	403.10	2.00	4.60	861.85	64.15	5100.00
1447.50	259.67	377.40	16.07	8.00	1432.39	260.77	6000.00
1012.75	56.55	201.32	4.80	17.3	4549.71	122.96	2900.00
263.61	26.57	172.50	1.00	1.25	213.64	28.77	1050.00
279.32	72.75	160.70	2.03	2.00	449.07	19.50	1400.00
801.00	247.00	250.00	7.00	4.00	852.00	130.00	3500.00
398.80	208.00	182.50	4.50	21.40	406.75	47.30	2100.00
2660.00	165.04	353.38	3.24	23.34	1070.61	7.61	7000.00
3053.04	365.00	779.69	7.60	4.00	2656.47	87.00	10500.00
36.42	24.30	72.50	1.00	2.50	120.87	18.46	430.00
71.50	19.35	83.50	0.60	1.70	122.12	32.60	440.00
33.80	28.20	102.50	3.50	9.85	100.20	15.15	400.00
788.50	140.35	193.50	3.00	4.00	386.80	45.65	2700.00
1639.60	123.31	184.20	3.25	5.00	520.56	26.01	3285.00
879.72	190.69	139.84	1.60	8.40	630.06	24.91	3000.00
34.94	8.72	46.86	0.47	0.80	62.96	6.91	230.00
2010.00	285.00	282.00	3.00	8.70	2072.65	48.35	5750.00
3403.00	600.53	1077.99	12.50	15.00	1678.33	42.44	10447.00
1249.25	316.00	217.30	5.80	6.60	950.65	230.65	4125.00
22786.15	3785.88	5772.50	99.33	157.28	17182.88	428.28	80698.00
25.02	2.06	176.52	0.65	0.37	45.04	6.03	285.00
36.90	9.75	127.55	0.50	0.20	104.45	2.60	400.00
28.58	2.27	10.55	0.40	0.20	154.13	0.02	203.00
3.22	1.49	8.61	0.15	0.24	14.40	1.08	46.17
368.55	63.60	270.75	2.33	1.78	1187.35	6.58	2000.00
36.25	15.60	54.89	1.10	1.55	134.19	8.61	360.00
4.00	1.52	9.20	0.88	0.25	12.38	0.74	43.83
28.20	13.35	59.55	0.70	0.20	81.70	13.70	260.00
12.25	12.34	21.53	0.60	0.50	83.04	3.01	170.00
542.97	121.98	739.15	7.31	5.29	1816.68	42.37	3768.00

(1) Includes provision for Central funding of Special Area Development Programmes for
(Rs. crores)

(a) Hill Areas	753.50
(b) Border Area Dev. Programme	200.00
(c) Western Ghat Dev. Programme	116.50
(d) Tribal Areas	756.00
(e) North Eastern Council	675.00
(f) Other Area Development Programmes	58.00
Total	2559.00

— (i) Includes LIC loan of Rs. 100 crores

State-wise/Sector-wise break-up of schemes under these programmes will be firmed up on receipt of specific proposals from the States.

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